



HEALTH SCIENCES LIBRARY  
UNIVERSITY OF MARYLAND  
BALTIMORE











Digitized by the Internet Archive  
in 2016





# THE Journal

OF THE **IOWA** STATE  
MEDICAL SOCIETY

## CONTENTS

- |  |   |   |    |
|--|---|---|----|
| Jaundice<br>Philip Thorek, M.D., Chicago, Ill. ....  | 1 | Education for Childbirth in Private Practice<br>H. Lloyd Miller, M.D., and Francis E.<br>Flannery, M.D., Cedar Rapids ..... | 9  |
| Present Concepts of Silent Gallstones<br>Philip L. Bettler, M.D., Sioux City ....                      | 4 | Secondary Hemorrhage Postadenotonsillectomy<br>Jack V. Treynor, M.D., Council Bluffs  | 14 |
| The Use of Metallic Elements in Repair of<br>Hernia Defects<br>James D. Hennessy, M.D., Council Bluffs | 7 | College of Medicine Clinical Pathologic<br>Conference .....   | 17 |

(Continued on page iv)

*Lilly* ADVERTISED SOLELY TO THE  
MEDICAL AND ALLIED PROFESSIONS

Research  
that never stops

JANUARY, 1953

# in the hands of the physician

Often the critical evaluation of the drug to be administered is as important to the patient's recovery as is the diagnosis of his condition. In each case correct procedures can be determined only by the physician.

CHLOROMYCETIN is eminent among drugs at the disposal of the medical profession. Clinical findings attest that, in the hands of the physician, this widely used, broad spectrum antibiotic has proved invaluable against a great variety of infectious disorders.

# Chloromycetin®

**notably effective, well tolerated, broad spectrum antibiotic**

The many hundreds of clinical reports on CHLOROMYCETIN emphasize repeatedly its exceptional tolerance as demonstrated by the infrequent occurrence of even mild signs and symptoms of gastrointestinal distress and other side effects in patients receiving the drug.

Similarly, the broad clinical effectiveness of CHLOROMYCETIN has been established, and serious blood disorders following its use are rare. However, it is a potent therapeutic agent, and should not be used indiscriminately or for minor infections—and, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.





# The JOURNAL

of the

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, JANUARY, 1953

No. 1

### JAUNDICE

PHILIP THOREK, M.D.  
CHICAGO, ILL.

To COORDINATE and simplify the subject of jaundice is imperative so that a diagnosis may be readily reached and proper therapy instituted. An understanding of the pathologic physiology results in a more rapid and accurate diagnosis. It is with this in mind that the subject is presented.

#### PHYSIOLOGY

The normal erythrocyte eventually terminates its existence by being broken down in the spleen, where the disintegrated red cell is divided into an iron-containing part (hemosiderin) and an iron-free part (hematoidin). The iron-free part is the precursor or mother substance of the main bile pigment called bilirubin. As the iron-free part of a broken down red corpuscle is delivered from the spleen to the general circulation it comes in contact with the reticuloendothelial system, which is a specialized network of cells arranged around the vascular system. These cells have the ability of converting the iron-free part of the red cell into bilirubin. This bilirubin is attached to a heavy protein molecule; hence it is designated bilirubin proteinate, in which form it is delivered to the liver. The liver splits the bilirubin proteinate and excretes pure bilirubin via the hepatic duct into the gallbladder. When the gallbladder contracts, bilirubin is delivered into the intestinal tract, where it is acted on and broken down by bacteria to its end metabolite known as urobilinogen (urobilin). Some of the urobilin passes out and colors the feces; the remainder is absorbed from the intestinal tract and is carried back to the liver via the portal system. One of the many functions of the liver is to reconvert the end product, urobilinogen back to its early predecessor, bilirubin.

#### CLINICAL CLASSIFICATION

A classification which has served well divides

jaundice into the following types: (1) prehepatic, (2) intrahepatic and (3) posthepatic. With this classification one can place the lesion as to its location before the liver, in the liver or after the liver.

#### PREHEPATIC JAUNDICE

A typical example of icterus which develops from a prehepatic lesion is familial hemolytic icterus. In this condition the red cells are apparently defective and, instead of being the usual normal biconcave disks, appear as "golf ball" red cells. Since they are also smaller than the normal cells, the condition has been referred to as microcytic spherocytosis. These cells have an increased fragility and rupture easily. As a result of this exaggerated bursting process, an excessive amount of iron-free pigment is excreted by the spleen, resulting in an excessive amount of bilirubin proteinate, which is formed by the reticuloendothelial system. This results in jaundice, because of hyperbilirubinemia. However, since bilirubin is in the form of a proteinate and since the molecule is too heavy to pass through the kidney, the urine does not show the color that one would expect in the jaundiced patient (acholuric jaundice). Since an increased amount of bilirubin is being delivered to the liver, a greater amount of bilirubin is excreted into the intestines. This results in an increased formation of urobilinogen in the intestinal tract. Not only is this large amount of urobilinogen excreted in the feces, but the remainder is returned to the liver. The liver converts as much of this as it can into bilirubin. The remainder overflows into the urine, resulting in an increased urobilinuria. Should the Ehrlich aldehyde test for urobilinogen be applied to such a urine, the result would be strongly positive; however, results of liver function tests would be negative. The van den Bergh test is of some value here, since a prehepatic jaundice gives a positive indirect and negative direct reaction.

Other examples of prehepatic jaundice are icterus neonatorum and hypersplenism. In the former, too many red blood cells are destroyed, and in the latter the spleen is hyperactive.

\* From the Departments of Surgery, University of Illinois; Cook County Graduate School of Medicine; Cook County Hospital, American and Alexian Brothers' Hospitals.

## INTRAHEPATIC JAUNDICE

Although this type is located in the liver, it is important to remember that the entire liver does not become involved at once. Death would promptly ensue if this were to occur. Any toxin, whether chemical or bacterial, or any organism may so injure the liver that one or more of its important functions might be hampered. Typical examples would range from a simple catarrhal jaundice to a fulminating acute yellow atrophy. When the liver is damaged, one or more of the liver function tests show signs of hepatic dysfunction. Many workers in this field have their favorite liver function test or group of tests. For practical purposes the author prefers to confine himself to the aldehyde test for urobilinogen and the cephalin flocculation test of Hanger. If the lesion producing the jaundice is intrahepatic, both of these tests elicit positive reactions.

## POSTHEPATIC JAUNDICE

In jaundice caused by a posthepatic lesion, it is assured that the prehepatic and intrahepatic functions are progressing normally. Examples of posthepatic jaundice are: stones in the common duct, carcinoma of the common and hepatic ducts, carcinoma of the head of the pancreas and metastases to the porta hepatis.

The obstruction of the flow of bile into the intestinal tract may be partial or complete. If the obstruction is partial, some bilirubin gets into the intestinal tract where it is converted to urobilinogen. That urobilinogen which returns to the liver will be reconverted to bilirubin, since the lesion is not an intrahepatic one. The aldehyde reaction for urobilinogen will be negative. On the other hand, if the obstruction to the overflow of bile is complete, no bilirubin will get into the intestinal tract and no urobilin will be formed. The aldehyde reaction, therefore, will again be negative. Liver function tests in posthepatic jaundice reveal normal functioning livers unless the jaundice has been present well over a month and is of a severe degree. A biliary cirrhosis then forms.

## DIAGNOSIS

In evaluating the diagnostic possibilities in each case of jaundice, nothing can replace the recording of a careful and accurate history. A detailed and keen physical examination is equally revealing. A large gallbladder in the absence of jaundice usually suggests a cystic duct obstruction (mucocele of the gallbladder); a small gallbladder plus jaundice usually indicates a stone in the common duct, and, finally, jaundice in the presence of a large gallbladder indicates a carcinoma of the head of the pancreas (Courvoisier's law). One can also differentiate the various sites of carcinoma which involve the biliary tract. For example, in carcinoma of the gallbladder, jaundice is not present, but a hard nodular mass which moves with

respiration is palpable in the right upper abdominal quadrant; in carcinoma of the common duct, jaundice plus a portal vein complex (ascites, dilated esophageal varices, hemorrhoids) is present; carcinoma of the ampulla of Vater is suspected when one finds jaundice plus signs of pancreatic insufficiency, and, finally, carcinoma of the head of the pancreas can be diagnosed when jaundice plus an inferior vena cava complex (bilateral dependent edema and dilated veins of both inferior extremities) are noted.

The differentiation between a stone and a carcinoma of the common duct may not be too difficult. However, it should be remembered that, in contradistinction to the usual conception, a carcinoma may produce colic and a stone may be silent. Taking an icterus index on five successive days might clarify the diagnosis. If the lesion is a carcinoma, the icterus index will be high and will continue to rise. However, it is possible for an icterus index to drop if there is some slight ball-valve action in the presence of a stone.

Unfortunately, pruritus (itching) is considered a symptom of jaundice. This is erroneous. Pruritus is a symptom of posthepatic (obstructive) jaundice. When the patient's primary complaint is itching, he is probably suffering from either a stone or a carcinoma which is involving the extrahepatic biliary passages. Rarely does a patient with intrahepatic jaundice complain of itching.

The pulse is usually slow in cases of icterus. A bradycardia is preferred in such cases, because when the pulse becomes rapid it usually forebodes an oncoming acute yellow atrophy or hepatic decompensation.

Of the numerous laboratory tests at one's disposal, the author prefers the Ehrlich aldehyde test for urobilinogen and the cephalin flocculation test. If the lesion is a prehepatic one, the urobilinogen reaction is positive and the reaction to liver function tests are negative; if the lesion is posthepatic, both of these results are negative. No tests are foolproof. However, the statements just made are found to be true in the vast majority of cases.

It seems to be a waste of time, effort and money to do a Graham-Cole test of jaundiced patients. The negative response found in these patients is most misleading. On the other hand, a flat roentgenogram of the abdomen is always taken. Just a few of the tests available to the clinician have been discussed. One should always keep in mind that diagnostic pitfalls are always present, since no test is foolproof.

## TREATMENT

To classify and discuss the treatment of jaundice under the headings of medical and surgical jaundice seems both impractical and misleading. When a patient with jaundice is seen one never knows whether the condition will eventually require a medical or a surgical regimen. Since the



two types of therapy overlap, it seems preferable to consider them together. Only the salient parts of the therapy will be mentioned.

Preoperative care is a major factor if a jaundiced patient is to be brought through a surgical procedure successfully. Some of the necessary essentials include electrolyte, water and protein balance; vitamin therapy, especially vitamins K, B and C, and an adequate glycogen supply to the liver. The severe pruritus which may be associated with jaundice can sap much of the patient's strength and energy. Recently the author has used intravenous injections of procaine hydrochloride in a 0.1 per cent concentration and has found that this gives rather rapid, pronounced relief from itching in most instances. A word of caution, however, should be mentioned. Since the drug is a convulsant, its use in concentrated solutions or rapid injection of dilute solutions may produce irreparable damage. Blood transfusions should be utilized, not only as an operative or postoperative measure, but also as a method of supplying many of the previously mentioned needs. Preoperative laboratory tests, such as blood cell counts, determinations of icterus indexes, prothrombin, bleeding and coagulating times, blood protein determinations, computing of albumin-globulin ratio and others, are all of value. Even so, none of these replace the clinical impression gained by the seasoned diagnostician as he watches his patient through this "build-up" period.

Many operative procedures, both curative and palliative, have been described for the jaundiced patient. The type of lesion determines the type of operation. Since metastases do not determine operability or inoperability, the only determining factor is fixation of the primary growth to surrounding vital structures. If the primary lesion is not fixed to a vital structure, even in the presence of operable metastases, we feel that Brunschwig's idea in attempting to remove as much of the malignant tissue as is possible is a valid one. Alexander has further stressed this point by suggesting the removal of solitary pulmonary metastases. The monumental work of Whipple in carcinoma of the pancreas has brought those conditions which were considered inoperable only a few years ago into the realm of operability.

To discuss the surgical therapy of the common duct, one must be familiar with its surgical anatomy. It is simple and practical to consider the common duct as being divided into four parts, each related to the duodenum, as follows: (1) supraduodenal portion, (2) retroduodenal portion, (3) infraduodenal portion (pancreatic) and (4) intraduodenal portion.

Regardless of where the stone is located, only part 1 is immediately accessible to the surgeon. Therefore, the incision is made there. A stone in either part 1 or part 2 is usually easy to remove by means of a supraduodenal choledochostomy.

The author prefers to drain the common duct rather than to close it because, in the presence of edema and infection, one never knows when a suture might cut through. A stone located in part 3 causes no concern if it is not embedded in the duct wall. If the stone is freely movable, it can be dislocated into part 1 through a supra-choledochal incision. However, if the stone has become firmly fixed in an ulcerated and edematous part of the duct wall, it cannot be dislodged. Some surgeons advocate mobilization of the duodenum to remove such a stone. Since this part of the common duct passes through the head of the pancreas; not between the pancreas and duodenum, and since this area is surrounded by a cage of vessels (superior and inferior pancreaticoduodenal arteries), this maneuver seems impractical. At times it is impossible. It is of value only in the unusual instance when the stone has eroded through the duct and the head of the pancreas. A better way to handle the impacted stones in part 3 is included in the following explanation: The flat roentgenogram, which must be in the operating room, is examined. It is noted that this is a flat film and that no dye has been given. If the stone is not seen on it, it is considered a cholesterol stone. If such is the case, a catheter is placed from part 1 of the duct downward to the stone. This is then sutured into the common duct. Twenty-four to 48 hours later, a few drops of ether are injected into the catheter every morning and every evening. Since cholesterol is soluble in ether, most of these stones will dissolve and disappear without further manipulation. If, on the other hand, the impacted stone in part 3 is seen on the flat roentgenogram, it is concluded that it is high in calcium content. This usually is not affected by the etherization method of treatment. In such an instance a short-circuiting operation is done to relieve the jaundice, which, after all, is of far greater and immediate importance than the presence of a stone. The procedure preferred is a cholecystojejunostomy. This brings up the necessity of determining whether or not the common duct should be explored. Such a decision must be made prior to performance of a cholecystectomy, because it usually is more difficult to do a choledochojejunostomy than a cholecystojejunostomy, after the gallbladder is removed if one finds it necessary to do a short-circuiting procedure. The indications for exploring the common duct are too well known to be repeated here. If an indication is present, the common duct is explored, the necessary procedure carried out and the gallbladder removed, if there is no need for its utilization in an anastomotic procedure. A stone in part 4 is also approached through an incision in part 1. Occasionally, when a stone dilates the ampulla of Vater, it can be pushed into the duodenum. If this is impossible, the middle of the descending portion of the duodenum is opened



and the stone is extracted transduodenally. The duodenum is then closed.

Drains in the common duct can be removed when one is certain that bile is flowing freely into the duodenum. This can be determined by means of roentgenography with a contrast medium, tying off the tube or inspecting the color of the feces. Although common duct tubes have been removed anywhere from a few days to many months postoperatively, the author is of the opinion that the average common duct tube should be removed somewhere within a two to four week period.

There are cases in which it is impossible to determine preoperatively whether the condition is due to a stone or to a neoplasm and whether or not the latter is operable. Although some conditions might appear inoperable preoperatively, the patient should not be denied at least the chance of an exploratory operation. Occasionally a life can be saved by removing a stone which was thought to be a neoplasm or by removing a neoplasm which was thought to be nonresectable.

The postoperative management is as vital to a successful result as is the operative procedure itself. This part of the treatment is not relegated to the uninitiated. It is best handled by someone thoroughly familiar with the modern approach to this all-important phase of therapy.

#### SUMMARY

To thoroughly understand the subject of jaundice, both diagnostically and therapeutically, the pathologic physiology of the metabolism of the bile pigments must be clarified.

Classifying jaundice into three groups: prehepatic, intrahepatic and posthepatic, has been advantageous clinically.

A classification of the various procedures applied to common duct surgery includes the supraduodenal, retroduodenal, infraduodenal and intraduodenal portions.

#### RESERVE AIR CORPS MEDICAL OFFICERS UNIT

An attempt to organize the Reserve Air Corps Medical Officers into a unit whereby points for retirement (pension) or promotion can be secured, similar to the program now underway by the Naval Reserve Medical Officers, is being planned. This would enable the officers to get point credits for attendance at staff meetings, study club meetings, county, state and national Society meetings.

Officers from the following counties are geographically eligible to be included in the unit: Boone, Story, Marshall, Dallas, Polk, Jasper, Madison, Warren and Marion. Others farther away might come if they so desired.

The proposal in no way means that interested parties would be ordered to active duty. It precludes meetings other than those of the present hospital staffs, study clubs or county society meetings.

Further information may be obtained from C. Harlan Johnston, M.D., 4820 Grand Avenue, Des Moines 12, Iowa (phone 5-0141), or from a representative at the Air Corps Reserve Office, 407 Federal Office Building, Des Moines.

#### PRESENT CONCEPTS OF SILENT GALLSTONES

PHILIP L. BETTLER, M.D.  
SIOUX CITY

GALLSTONES in animals have been noted from the earliest times. Writings dating as far back as 900 A.D. have been found, with descriptions of stones commonly found in the ox. It is interesting to note that these earliest observations were limited to animals, although the Greeks, who were excellent clinical observers and students of anatomy, had numerous accurate descriptions of renal colic in man. One of the first references to gallstones in a human subject was made by a Greek physician, Alexander, who lived in the Fifth Century. He mentions "dried up humors concreted like stones," which he thought might have something to do with "obstruction of the liver."<sup>1</sup> During the past 400 years, however, there has been a constant advance in all branches of science. Modern concepts of disease and new diagnostic facilities have today brought the problem of gallstones into fairly sharp focus. With this broader understanding have come new problems and the necessity of decisions about them.

To most physicians today, gallstones mean a pathological condition which causes severe intermittent pain and disability, carrying with it a threat of severe complications. There is general agreement about the treatment and rational of treatment for the patient with severe and moderately severe recurrent attacks of gallstone colic. But there is a significant group of patients who have gallstones which are either silent or definitely quiescent. Our modern improvements, especially the advanced surgical and radiological technics, have made this group of patients even more significant.

What should we advise a patient who has gallstones, accidentally discovered by x-ray or at laparotomy performed for some other condition? More specifically, what should we advise these patients if subsequent history related to the gallbladder reveals either no symptoms or such minimal complaints that they present no personal problem?

#### INCIDENCE OF SILENT GALLSTONES

It is obviously impossible to determine at the present time how frequently quiescent gallstones obtain, but they probably occur even more frequently than we think. Some idea can be obtained from postmortem examinations which show gallstones. Robertson<sup>2</sup> reviewed 1,027 cases in which necropsy showed gallstones, and found that 61 per cent of the cases failed to show evidence of recognition by the patient or the physician. He estimates 10 to 20 per cent of persons over the age of 30 have stones. The Lahey Clinic<sup>3</sup> found the proportion of females to males about three to one, with a large percentage of the patients overweight.

## REASONS FOR CONSIDERING SURGERY

The two main reasons for considering prophylactic surgery concern the elimination of inflammatory complications and the elimination of the probability of carcinoma. The wide divergence of opinion regarding treatment of silent or quiescent gallstone stems from the fact that there is little information pertaining to the likelihood of the development of complicating situations when gallstones are quiescent at the time of discovery.

In an attempt to accumulate some related data, Comfort, Gray and Wilson<sup>4</sup> reviewed 998 cases at the Mayo Clinic where gallstones were found incidentally during other operative procedures. As a result of follow-up letters, 112 patients reported that no symptoms were present prior to the incidental diagnosis of cholelithiasis. The result of the study showed that over a period of 10 to 20 years, 51 (45.5 per cent) of the 112 cases developed symptoms. Thirty stated that they had only had indigestion of one form or another, and 21 reported the onset of colic. Several of those developing colic stated that the attack subsided and that they were symptom free for varying periods of years. Of the 51 cases that developed symptoms, 24 were subjected to cholecystectomy.

Truesdell<sup>5</sup> followed and reviewed 50 cases in which he found gallstones incidental to other surgery over a period of about 20 years. Final disposition of his 50 cases showed six had almost immediate cholecystectomy; 8 died in a relatively short period of time, and 12 returned sooner or later for cholecystectomy. All contact was lost with another 12, while the last 12 remained under observation. Of these, only two presented symptomless gallbladders.

Blackford,<sup>12</sup> in 1933, in a 10 year follow-up of 200 mildly symptomatic gallstone cases, found that 48 per cent had either come to biliary tract surgery or were having symptoms which he interpreted as indicating the need for surgery.

The likelihood of the development of carcinoma in gallbladders containing stones, although not great, is certainly real, in the opinion of most investigators. Boyd<sup>7</sup> believes that, with few exceptions, cancer is found only in gallbladders which harbor stones. Cole and Ellman<sup>8</sup> estimate the rate of carcinoma in cholelithiasis found at operation and autopsy from two to six per cent. Moore, Kauffman and McNeill<sup>9</sup> found an incidence of one per cent. Mohardt's<sup>10</sup> reported analysis of a composite series of 35,054 gallbladder operations showed 1.12 per cent carcinoma. Graham,<sup>11</sup> an early advocate of prophylactic gallbladder surgery regardless of symptoms, felt that cholecystectomy for stones could eliminate most, if not all, carcinomas of gallbladders. Comfort, Gray and Wilson,<sup>4</sup> on the other hand, doubt whether carcinoma of gallbladders should be emphasized as a hazard of silent gallstones. They point to their observation that carcinoma of the gallbladder is not only rela-

tively rare, but found most frequently when symptoms of cholecystitis have been present for many years.

## VIEWS ON SURGICAL TREATMENT

There seems to be little agreement on the fundamental question of whether or not to operate on silent or quiescent gallstones. Robertson,<sup>2</sup> after making a rather extensive review of 107 pieces of literature on gallstones, reported: "Thus, at the beginning of the present century, the essential facts about quiescent gallstones were established, as well as the varying conclusions voiced by pathologists, clinicians and surgeons as to the significance of these facts. In the succeeding 45 years, there has been little material progress to clear the rather muddled water."

In general, surgeons tend to advocate surgical treatment of all gallstones, quiescent or silent. They are fortified by statistics which indicate a cholecystectomy mortality somewhere in the neighborhood of .5 per cent which increases to two or three per cent in more advanced and complicated cases. They are aware of the tremendous increase in technical difficulties with acute and complicated cholelithiasis problems.

Many less radical internists and surgeons are mindful of the problem of the patient who has more symptoms and complaints following surgery than before. They emphasize that postmortem examinations show an incidence of gallstones without previous history of symptoms which far exceeds the incidence of silent gallstones in the living.

Riese<sup>6</sup> sent a questionnaire to 40 nationally known surgeons and internists entitled, "Is Surgery Required for Silent Gallstone?" He reports interesting observations by these men, whose opinions are highly respected by the profession generally. Ten surgeons felt that no surgery was necessary, while 20 advocated surgery. Four internists opposed surgery, four favored it and two internists hedged on the question.

Riese adds, however, that the answers did not always show clear-cut decisiveness, and restricted a final decision to other factors. A composite list of these factors includes: (1) presence of infection, (2) age of patient, (3) prophylaxis against complication of infection, (4) function of the gallbladder, (5) availability of competent surgery, (6) general physical condition of the patient, (7) prophylaxis against malignancy, (8) size and quantity of stones and (9) condition of the stone—whether or not the silent gallstone is really silent.

Riese further pointed out that many of his replies were somewhat colored by the experience of the physician. Thus, George T. Pack, who confines his work largely to the diagnosis and treatment of cancer, indicated that he favored cholecystectomy because almost every carcinoma of the gallbladder that he had encountered was associated with gallstones, and he felt that the incidence



of carcinoma was greater than the operative mortality for cholecystectomy. Frank Lahey believed that most gallstones are not silent and that the proper time for surgery is when there are no symptoms. R. Franklin Carter advocated cholecystectomy if duodenal drainage showed infectious organism. Alvarez favored leaving a silent gallstone alone if the patient lived in a community where adequate surgery was always available. George Crile answered that if he himself had a silent gallstone, he would not undergo operation. Charles Mayo would temporize with caution and periodic examination. Edgar Burke, at Jersey City Medical Center, has had much experience with complication of gallbladder pathology. He was emphatically in favor of early cholecystectomy.

#### COMMENT AND DISCUSSION

The problem of treating nonsymptomatic cholelithiasis finally resolves itself to weighing risk against risk—the risk of operative mortality of elective cholecystectomy at a time favorable to the patient and the surgeon as against operative mortality associated with inflammatory complications of gallbladder disease and against the risk of carcinoma of the gallbladder.

The over-all operative risk in cholecystectomy has gradually decreased the past ten years until, at the present time, it is somewhere in the region of one per cent. The last decade has witnessed new knowledge and application of antibiotics; new understanding and treatment of the problem of blood coagulation with reference to prothrombin and vitamin K; new technics in anesthesia methods; new and improved postoperative treatment, including early ambulation and more exacting methods of combating atelectasis; thrombophlebitis, and other postoperative complications. The risk for the major surgical procedure of cholecystectomy has probably been reduced to almost a minimum. One cannot lose sight of the fact, however, that just as the mortality risk of elective cholecystectomy has become minimal, so has the risk of all complicated gallbladder surgery been decreased because of present day advances in management and technic. The hazard of prophylactic cholecystectomy must be minimal if we are to justify the operative attack on nonsymptomatic stones.

Given a patient with silent or quiescent gallstones, what factors must we consider against the reasonable and favorable mortality cited above? At the very outset, we must keep in mind the figures compiled by Robertson,<sup>2</sup> who pointed out that better than 50 per cent of gallstone cases remain unrecognized. Therefore, if all incidentally discovered gallstones should be removed, one might consider active surveys to uncover all cases of cholelithiasis. Such a line of reasoning seems hardly rational. We are forced to admit that, for every group of patients with quiescent gallstones who are under consideration for prophylactic surgery, there is another group of equal size in which

gallstones are present, who will die of other diseases. The gallstones in this group will not be discovered until the postmortem examination. As Robertson<sup>2</sup> pointed out when he surveyed postmortem studies on 1,027 patients who had gallstones, 61 per cent apparently had had no suspicion of cholelithiasis, nor did their physicians. Therefore, when we advise prophylactic surgery, for quiescent gallstones, we must consider that the patient has approximately an even chance of completing her life span without complications.

When we weigh the risk of silent gallstones cholecystectomy against the risk of cholecystectomy in the face of inflammatory gallbladder complications, it is not an even trade. Internists and surgeons well know the increase in technical difficulties, the profound threat of common duct obstruction or of liver damage and the increased risk of operative injury to the bile duct system. If silent gallstones are treated conservatively and if inflammatory complications develop and surgery becomes necessary, it is certainly not an even trade in risk.

Such logic must be tempered by the unalterable fact that whatever the minimal risk of operation for silent gallstones, it is still an immediate risk, while the conservative treatment of the same problem is a future risk. Moore<sup>9</sup> and others, put it rather well when they pointed out that few surgeons would want to trade one death from prophylactic surgery for silent gallstones at the age of fifty for one death from cholecystectomy in a patient in his seventies who developed gallstone complications.

The patient with nonsymptomatic stones must be carefully considered with regard to his general physical state, for the danger of precipitating a fatal crisis of some disease in another organ or system is certainly present. Vascular, coronary and renal disease will greatly detract from the favorable aspect of prophylactic gallbladder surgery. They must be considered in weighing risk against risk in prophylactic early cholecystectomy.

A pertinent consideration is the age of the patient. As the individual approaches the higher decades, the indication for prophylactic surgery becomes less obvious, in spite of the fact that statistics show a gradual increase in the incidence of gallstones up to about 29 per cent in the eighth decade and about 32 per cent in the ninth decade. As a corollary, however, distinct gallbladder disease in the aged demands more prompt consideration of early cholecystectomy because the aged tolerate the complications of gallstones poorly. We must certainly consider an aged individual with silent gallstones likely to show gallstones at postmortem, even though death was due to some other condition. In the weighing of risk against risk, the upper decades would seem to make the favorable figures of operative mortality in elective cholecystectomy less attractive.

The risk of primary carcinoma of the gallblad-



der, as noted above, is real. Figures vary from one to six per cent. Although there is some disagreement, the balance of opinion correlates gallstone disease with the development of carcinoma of the gallbladder. In using the conservative figure of one per cent for carcinoma, the favorable mortality of elective cholecystectomy is certainly a balanced risk.

Disregarding patients in the upper age brackets, the risk of carcinoma and the factors of other incidental important pathology related to the coronary, renal and vascular systems; and considering only the young and middle-aged patient, we are faced with the question: What is the likelihood of the development of inflammatory complications in the silent gallstone under consideration? There is about 50 per cent chance that the patient will develop symptoms. Once having developed symptoms of a definite nature, the problem is no longer one of the management of silent gallstones. This 50 per cent likelihood covers a period of from 10 to 20 years.

#### SUMMARY AND CONCLUSIONS

Present day concepts of the treatment of silent gallstones are not entirely in agreement. The majority of surgeons and some clinicians generally favor prophylactic cholecystectomy. A significant number of surgeons and clinicians advocate a conservative policy. A questionnaire survey of 40 nationally prominent physicians has demonstrated this division of opinion.

The incidence of silent gallstones is unknown, but there is evidence that 60 per cent of gallstones may be quiescent or silent. The incidence of gallstones in the general population is probably between 10 and 20 per cent.

Modern improvements in surgical, laboratory and therapeutic technics have brought the mortality for elective cholecystectomy to about one per cent. The over-all mortality, including individuals with inflammatory complications, is about three per cent.

With few exceptions, cancer of the gallbladder develops only in the presence of stones. The incidence of cancer of gallbladder is about one per cent.

The patient with silent gallstones can be told that, over a 10 or 20 year period, he will have about a 50 per cent chance that symptoms will develop and that he will have about one chance in five that painful and serious symptoms will develop.

The time honored principle of strict individualization of the problem and careful consideration of age bracket and the existence of other serious pathology applies to all patients with silent gallstones.

In experienced hands, prophylactic cholecystectomy for silent gallstones carries a minimal risk, but it is an immediate risk. Conservative treatment of the silent gallstone patient carries a definitely

greater risk—but it is a future risk. The attitude of the patient to his problem must be a factor in choosing the course of therapy.

#### BIBLIOGRAPHY

1. Walters, W.; and Snell, M.: Diseases of the Gallbladder and Bile Ducts. Philadelphia, W. B. Saunders Co., 1940, chap. 1:1-9.
2. Robertson, H. E.: Silent gallstones. *Gastroenterology*, 5:345-372 (November) 1945.
3. Marshall, S. F.: Surgical treatment of gallstones and their complications. *Texas State J. Med.*, 46:12-17 (January) 1950.
4. Comfort, M. W.; Gray, H. K.; and Wilson, J. M.: Silent gallstone; 10 to 20 year follow-up study of 112 cases. *Ann. Surg.*, 128:931-937 (November) 1948.
5. Truesdell, E. D.: Frequency and future of gallstones believed to be quiescent or symptomless. *Ann. Surg.*, 119:232-245 (February) 1944.
6. Riese, J. A.: Is surgery necessary for silent gallstone? *Rev. Gastroenterol.*, 18:426-431 (June) 1951.
7. Boyd, W.: Surgical Pathology. Philadelphia, W. B. Saunders Co., 1947, p. 334.
8. Cole, W. H.; and Elman, R.: Textbook of General Surgery, pp. 627-667, New York, Appleton-Century Co., 1948.
9. Moore, R. M.; Kauffmann, A. F., III; and McNeill, J. P.: Problem of the silent gallstone. *South. M. J.*, 44:1027-1033 (November) 1951.
10. Mohardt, J. H.: Carcinoma of gallbladder: collective review. *Internat. Abstr. Surg.*, 69:440-451 (November) 1939.
11. Graham, E. A.: Prevention of carcinoma of gallbladder. *Ann. Surg.*, 93:317-322 (January) 1931.
12. Blackford, J. M.: Late results of cholecystitis. *Trans. Am. Gastroenterol. Assn.*, 36:344-351, 1933.

## THE USE OF METALLIC ELEMENTS IN REPAIR OF HERNIA DEFECTS

JAMES D. HENNESSY, M.D.  
COUNCIL BLUFFS

THE USE OF metallic gauze implants for the repair of hernia defects has not received the universal acceptance it deserves.

Much of the resistance is due to lack of confidence in the method and fear of the complications that might develop. As a result, many patients who could be cured are going uncured. The current literature<sup>1, 4</sup> now contains numerous articles proving, without doubt, that even the most outlandish hernias can be repaired in this manner. The same articles show that complications are so few in number and so minor in nature that they can be totally disregarded.

The fact that metallic gauze implants are not unequivocally accepted by surgeons and medical men is not surprising. At first glance the procedure seemingly violates some of our fundamental surgical principles. The objections may be summarized as follows:

1. Burying large pieces of foreign material interferes with normal wound repair.
2. The gauze would either be extruded or require removal, in the presence of infection.
3. Ulceration of large blood vessels and adjacent viscera may create secondary hemorrhage or persistent fistulas.
4. In the event a future surgical procedure should become necessary, the implanted gauze would deny easy access to the abdominal cavity.

From the Department of Surgery, Creighton School of Medicine, Omaha, Neb.

5. The repaired area would ever after be rigid and painful.

These objections probably would be valid if applied to the filigrees and plates used in the past. They do not apply, however, to tantalum gauze. Tantalum is truly different.

Tantalum gauze does not interfere with normal wound healing: it furnishes a bridge for the formation of tough fibrous tissue. Tantalum wire does not form a nidus and there is not the slightest attempt on the part of the tissues to extrude it.

On numerous occasions, when this material has been placed in direct contact with the bowel, later examination shows it to have developed a peritoneal covering, with only the finest of intra-abdominal adhesions present. Future laparotomies through the mesh need not be feared, as secondary incision through this material is easily accomplished with a scissors.

Lastly, it forms a soft, pliable wound, indistinguishable from ordinary soft tissue repair, in a remarkably short period of time. In my experience, postoperative discomfort or pain has never been a complaint.

Recurrences through the gauze cannot take place. Practically all the failures recorded have followed first experiences, in which a small piece of gauze was used to cover a large defect.

It is perhaps well at this time to consider some of the more specific indications for the use of this technic:<sup>3</sup>

1. Ventral hernias (mostly postoperative). (a) To close defects in which fascial edges cannot be approximated. (b) To reinforce weak suture lines which, of themselves, are not strong enough to insure cure.

2. Recurrent inguinal hernias and those with poor tissues or large defects. Sliding hernias should be included here.

3. Congenital absence of the abdominal wall.

4. Surgical defects of the abdominal wall caused by resection of large tumors.

5. Lumbar hernias.

6. Eventration of the diaphragm and diaphragmatic hernia.

It is not the intention of this paper to give a detailed discussion of surgical technic. Surgeons who have reported respectable numbers of cases emphasize certain salient points.<sup>5</sup> They may be repeated here.

1. Conform rigidly to all usual surgical principles. Sterilize the gauze by boiling or autoclaving. Never pass it through a flame.

2. Close the internal ring of the hernia when you can do so without tension, but be content to close with a portion of the sac rather than risk a tight approximation.

3. Remove all adherent bowel and omentum from the sac and mobilize from the edges of the internal ring.

4. Generously expose the fascia surrounding

the hernia and extend the mesh a full inch or more beyond the areas of weakness.

5. Where ever possible suture the gauze to fascia or periosteum.

6. Do not place the mesh on tension and do not bridge two rigid structures (i.e., the costal margin to the ileum and pubic bone).

7. Use braided wire or tantalum monofilament wire as suture material.

8. Excise the old scar and excess skin. This diminishes dead space.

9. Drainage of the wound is not necessary, but an occasional collection of serum may have to be aspirated or evacuated. This does not seem to delay healing of the wound.

#### OTHER METALLIC ELEMENTS

Metals other than tantalum have been used for the repair of hernia. In 1946 McNealy and Glassman<sup>2</sup> described a plate made of vitallium. A search through the literature yields few corroborative articles, so we may conclude that its use has not been widespread. My own experience with this device has been discouraging.

More recently, stainless steel has been offered as a substitute for tantalum. This material is available in assorted gauges and is less expensive than tantalum. It is used in a similar manner and the indications are identical. Stainless steel, used for gauze implants, is probably still too new for judgment to be passed on its value. I personally have not had occasion to use it.

#### CONCLUSIONS

1. The use of metallic mesh, particularly tantalum gauze, is no longer in the experimental stage.

2. The described method is the safest, easiest and surest way of treating complicated hernias.

#### BIBLIOGRAPHY

1. Koontz, A. R.: Difficult hernias: use of tantalum mesh in repair. *J. Internat. Coll. Surgeons*, **16**:637-642 (November) 1951.
2. McNealy, R. W.; and Glassman, J. A.: Vitallium plates used in repair of large hernias. *Illinois M. J.*, **90**:170-173 (September) 1946.
3. Koontz, A. R.: Tantalum mesh in hernia repair. *J. Internat. Coll. Surgeons*, **15**:748-753 (June) 1951.
4. Throckmorton, T. D.: Tantalum gauze in repair of hernias complicated by tissue deficiency, preliminary report. *Surgery*, **23**:32-46 (January) 1948.
5. Koontz, A. R.: Tantalum mesh in repair of large ventral hernias. *Surg., Gynec. & Obst.*, **93**:112-115 (July) 1951.

#### IOWA PEDIATRIC SOCIETY APPOINTS NEW SECRETARY

Because of illness, Dr. James Dunn, Davenport, has retired as secretary of the Iowa Pediatric Society. Dr. Ralph E. Dyson, 804 Bankers Trust Building, Des Moines, has been appointed to serve in this capacity until the annual meeting in April.



## EDUCATION FOR CHILDBIRTH IN PRIVATE PRACTICE

(669 Consecutive Cases)

H. LLOYD MILLER, M.D., and  
FRANCIS E. FLANNERY, M.D.

CEDAR RAPIDS

THERE HAS BEEN A decided trend in obstetrics the past five years to consider the emotional as well as the physical aspects of having a baby. The importance of a satisfying emotional experience at the time of giving birth is also being recognized by pediatricians and psychiatrists.<sup>1</sup> In a training program for expectant mothers, we feel that emotional enlightenment as well as physical training is essential in order to make what was once an ordeal a more pleasurable experience. For many years obstetricians have delivered babies with their attention focused primarily on the pelvic organs and, for all practical purposes, forgetting the important cephalic anatomy and physiology at the other end of the table.

Many obstetricians in the past, including Dr. Joseph De Lee, have tried to keep surgical procedures and analgesia at a minimum. However, it took Dr. Grantly Dick Read of England to really swing the pendulum from excessive narcosis and anesthesia to a more normal type of care for the parturient woman. I think that many of us had the idea of helping expectant mothers by educating them in some manner, but we lacked the ingenuity to think of having classes and exercises for them. For the past ten years I have been using a book called "Expectant Motherhood," by Dr. Nicholson J. Eastman of Johns Hopkins Hospital. Each new patient is presented with a copy of this book on her first prenatal visit. I feel that the knowledge patients have gained from this book has made them more cooperative during labor and delivery. This opinion was often expressed by the nursing staff of the obstetrical departments.

Having noticed the good effects gained by this rather haphazard method of instruction, we were receptive to Dr. Read's book, "Childbirth Without Fear," when it began to receive publicity from the lay press in 1947. Soon after that, a few patients began asking for a chance to try the method. The results were amazing, but we felt that the patients really needed class work, practice, more expert guidance and support during labor, such as that being used at Yale.<sup>2</sup> Therefore we arranged in 1950 for a nurse, Miss Dorothy Bell, to go to Grace New Haven Community Hospital for a three months course in the technic. Our class work began in November, 1950, and we began our statistics two months later on Jan. 1, 1951. The 669 cases we are reporting are consecutive deliveries from January 1, 1951 to April 1, 1952 (15 months), except those of less than 28 weeks gestation.

Our nurses give four classes on education, exer-

cises and relaxation. About 12 expectant mothers are registered for each class. We feel that a larger number may detract from personal attention. We are now planning to have a fifth class in order to put more stress on relaxation, and also give more instruction for those wishing to breast feed their babies. We (the doctors) give two lectures to the expectant mothers and their husbands. One of these is on prenatal care and delivery, and the other on neonatal care. We do not feel it is necessary to have a lecture by a psychiatrist, although in the beginning we thought of doing this also. The lectures are informal, and questions are encouraged from the group. About 30 to 50 couples attend each of these lectures.

Our program differs from that at Yale in that all the babies are delivered by us personally. Also, until just recently, all the class instruction and support during labor was given by the one nurse, Miss Bell. We now have a second nurse, Miss Ardis Frieden, whom we have trained ourselves. She is assisting with class work and support. We mention this because we feel that this added personal attention gives the patients a greater feeling of security than when a number of different people care for them, as is usual in a large institution.

We have included in our classes even the patients whom we knew were going to have cesarean sections, because we have learned that these patients have a more comfortable pregnancy and approach their surgery with a better emotional attitude. The common symptom of backache can be greatly relieved by some of the exercises.

The results we have obtained have steadily improved as we learned more about the method. We ask most patients in what way they think we can improve, and have followed several of their suggestions. We learned rather early, for example, that too much demerol has a tendency to cause confusion and lack of cooperation, where a smaller dose will aid in relaxation and allow better cooperation. As a result, we now use no more than 50 mgm. of demerol in a single dose.

The first three months, our primiparas averaged 11 hours in labor. The average now is a little over nine hours and this includes the early ones who averaged 11 hours. We believe this shows that our method has improved in the past few months.

In this paper we are not going to try to evaluate the emotional and psychological improvements in the patients, although we feel the patients are happy to be included in a program such as this. Nor are we going to indicate a measure of the pain or discomfort they have had. We feel that this cannot be expressed without causing criticism, because there is no accurate way of objectively measuring pain. As a group, these patients have had slight discomfort. It seems to us that the response of the patients has been more than satisfactory, because we have no reason to believe that many patients are going to another obstetrician, and the

success of any method in private practice can be measured only by the amount of obstetrics one continues to do. Perhaps, early in the program, some did hesitate to come to us because of the common misconception that "natural childbirth" means no analgesia and no anesthesia. Most of the patients say they would not want a baby any other way, and many of the early ones are now returning for care in subsequent pregnancies. Probably the multiparas are more appreciative than primiparas because they have had babies under other methods and have a means of comparison. We have the patients take their classes over again in repeat pregnancies because we feel they will follow their exercises better if they are reminded each time. Any patient who has returned for subsequent pregnancies has, in fact, asked to go to the classes again.

Table 1 shows the total number of cases and the average number of hours in labor. At a glance one can see the reduction in the average number of hours in labor in this method. According to Williams,<sup>3</sup> the average number of hours for a primipara is 16 to 18, and for multiparas about six hours less. In this series the average for the primiparas was 9 hours and 2 minutes and for the multiparas 5 hours and 7 minutes.

TABLE 1

Total Number of Deliveries .....	669
Primiparas .....	228
Multiparas .....	441
Average 1st Stage .....	5 hours, 59 min.
Average 2nd Stage .....	22 min.
Average 3rd Stage .....	6 min.
Total Average Hours in Labor .....	6 hours, 27 min.

We have marked the onset of labor according to the time the patients said they began having regular contractions, no matter how far apart the contractions may have been. In some multipara cases, where irregular contractions were the first sign of labor, we considered labor as beginning with these, providing the patient did go into active labor. Many multiparas, for example, will have irregular contractions for three to five hours; then, after an enema, will have regular contractions and deliver. In these cases we have marked the onset of labor from the beginning of the irregular contractions. In other words, we have not let our enthusiasm for the method deter us from accurate statistics. As anyone knows who has tried

TABLE 2

TYPE OF DELIVERY	NUMBER	PER CENT
Spontaneous .....	634	94.76
Forceps (low) .....	9	1.33
Breech Extractions .....	3	.44
Sections .....	23	3.43

to keep such statistics, it is occasionally difficult to decide when labor actually did begin. In cases of doubt we have used the longer time interval rather

than the shorter. I might add here that all the statistics in this paper were taken at the time of each delivery, and not obtained by going back over hospital records.

There is a surprisingly high percentage (94.7) of spontaneous deliveries. (Table 2). We believe this is due to the instruction, because these patients know what is going on throughout their labors and know what to do at the various stages. We inform them as to their progress each time they are examined.

Table 3 shows the number who attended classes

TABLE 3  
CLASSES AND LECTURES (669 CASES)

	NUMBER	PER CENT
Attended Classes .....	592	88.47
Did Not Attend Classes .....	77	11.50
Attended Lectures .....	441	65.91
Did Not Attend Lectures .....	228	33.91

and lectures. At first the percentage was low, but it has now risen to nearly 100 per cent. In the beginning some had to be urged, but at present most of them know we have classes before they come to us and are eager to begin. The ones who have several other children at home sometimes have difficulty finding the time to come, although we have had two mothers in class who had six children at home. The reason we have a lower percentage attending lectures is because of the husbands' working hours, and also because some men are rather shy about coming to such lectures.

We have learned that those who do come are a great comfort to their wives while in labor, and also are enthusiastic about the method.

All patients, whether they attended classes or not, received support during labor. We feel that this support by trained personnel aids them greatly, even though there has been no previous instruction. Abdominal breathing can be taught during labor, but of course the patient cannot do it as well as those who have practiced.

We have divided the primiparas and multiparas into two groups for all the rest of the statistics. Table 4 shows the type of delivery in the 441 multiparas.

TABLE 4  
MULTIPARAS 441

TYPE OF DELIVERY	NUMBER	PER CENT
Spontaneous .....	425	96.37
Sections .....	16	3.62
Forceps .....	0	0

The sections will be explained below. There were no forceps deliveries in this group although one of us (HLM) had delivered many of them in previous pregnancies with the use of forceps. We might say here that some of those who had had previous forceps deliveries were quite concerned about whether they could have a spontaneous



delivery or not. After seeing the results we can now quite safely assure them that they will have a normal delivery.

The short duration of the second stage indicates (see table 5) that forceps certainly were not indicated to relieve pressure of the baby's head on the perineum, nor to shorten the second stage. In fact, we have to watch these patients carefully in order to have time to scrub and drape them.

TABLE 5

Average 1st Stage .....	4 hr. 48 min.
Average 2nd Stage .....	13 min.
Average 3rd Stage .....	6 min.
Total Average Hours in Labor .....	5 hr. 7 min.

Table 6 shows the number and percentage of the various positions. The only significant fact in this observation is that there is a smaller percentage of posteriors than is usually seen where other series are recorded. (See Williams' textbook on obstetrics.) We attribute this to the relaxation of the patient, because we have seen several in the posterior position rotate near the end of labor and deliver in the anterior position. We consider them to be in the anterior position if the head is delivered anteriorly, no matter what the position may have been in its descent through the birth canal.

TABLE 6  
425 MULTIPARAS—7 SETS OF TWINS

POSITION	NUMBER	PER CENT
LOA .....	282	65.27
ROA .....	110	25.41
LOP .....	6	1.38
ROP .....	10	2.30
Breech—Footling .....	12	2.75
Frank .....	9	2.08
Transverse—Shoulder .....	2	.46
Hand .....	1	.23
	432	

In table 7 we have shown the amount of medication given to the 441 multiparas.

TABLE 7  
MEDICATIONS IN 425 MULTIPARAS

	NUMBER	PER CENT
None .....	111	26.11
125 mgm. or More Demerol .....	8	1.88
125 mgm. or Less Demerol .....	305	71.76
Morphine gr. 1/6 .....	1	.23
50 Mgm. Demerol Only .....	239	56.23

The cesarean sections are not included in this group. The 239 patients who received demerol were given only 50 mgm. Including the 111 cases who received none, this means that 82 per cent had 50 mgm. or less. We know that many of the patients receiving 50 mgm. of demerol could have gone without it because in many cases they were urged to take it. The reason we urge them to take a small amount is because we feel that a small dose of demerol will help them relax better dur-

ing the few minutes of the transitional stage. Morphine was given to one patient because she was seven weeks early and we thought we might be able to stop her contractions when she first entered the hospital.

Table 8 shows the amount of anesthesia given to the multiparas. The anesthetic agent used was NO<sub>2</sub> and O<sub>2</sub>. We usually use 80 per cent nitrous oxide to 20 per cent oxygen. The 370 who received whiffs were fully conscious at all times and heard the baby's first cry. Many of those listed as having whiffs had only one to three breaths of gas. I believe they took it to see if we would actually give it to them as much as for any other reason.

TABLE 8  
ANESTHESIA 425 MULTIPARAS

	NUMBER	PER CENT
Whiffs .....	370	87.05
None .....	40	9.41
Partial Anesthesia .....	11	2.59
Complete Anesthesia .....	4	.94

Partial anesthesia was considered present each time the mother became unconscious, even though it may have been only for the moment of delivery. These cases were those who asked to be asleep for the actual birth or in simple breech deliveries where we felt delivery could be accomplished less dangerously for the infant. The four complete anesthetics were used for two of the transverse positions where version and extractions were done, and for two breech extractions.

Table 9 shows the percentage of episiotomies and lacerations.

TABLE 9  
EPISIOTOMIES 425 MULTIPARAS

	NUMBER	PER CENT
Episiotomies .....	183	43.05
No Episiotomies .....	180	42.11
1% Laceration .....	56	13.17
2% Laceration .....	6	1.41

Forty-two per cent of the multiparas delivered with no episiotomies and no tear. This figure seems significant, in view of the short duration of the second stage (13.37 minutes). As do most obstetricians, we realize that an episiotomy is better than a tear. Thus, the reason for the 14.58 percentage of lacerations is because we felt we could get by without an episiotomy, or because things moved so rapidly that we actually did not have time to do one. A local infiltration of 1 per cent novocain was used for all repairs.

TABLE 10  
PRIMIPARAS (228)

	NUMBER	PER CENT
Spontaneous .....	212	92.98
Sections .....	7	3.07
Forceps (Low) .....	9	3.94

The type of delivery for the 228 primiparas is recorded in table 10. Again the large percentage of spontaneous deliveries (92.98 per cent) is amazing.

As shown in table 11, these patients did not have long labor in order to accomplish a spontaneous delivery.

TABLE 11

Average 1st Stage .....	8 hr. 18 min.
Average 2nd Stage .....	38 min.
Average 3rd Stage .....	6 min.
Total Average Hours in Labor .....	9 hr. 2 min.

The short duration of the second stage is important in view of the fact that forceps were used in only 3.9 per cent of the cases. We have noticed over the past 15 months a gradual decrease in the number of hours in labor, but feel that about nine hours for a primipara is about as low as it can get.

Table 12 shows the positions in the 221 primiparas delivered from below. As in the multiparas, there is nothing significant except that there are probably fewer posterior positions than are ordinarily seen.

TABLE 12  
POSITIONS 221 PRIMIPARAS

	NUMBER	PER CENT
LOA .....	140	63.34
ROA .....	68	30.76
LOP .....	5	2.26
ROP .....	3	1.35
Breech—Footling .....	2	.90
Frank .....	3	1.35

TABLE 13  
MEDICATIONS 221 PRIMIPARAS

	NUMBER	PER CENT
None .....	13	5.88
125 Mgm. or More Demerol .....	43	19.45
125 Mgm. or Less Demerol .....	165	74.66
50 Mgm. Demerol Only .....	100	45.24

Only 5.88 per cent had no demerol, yet only 50 mgm. were given in 45.24 per cent of the cases. One certainly has no need to worry about a narcotized baby with such small amounts of demerol. As with multiparas, we feel that some medication helps in the transitional stage.

Table 14 shows the amount of anesthesia used in the primiparas.

TABLE 14  
ANESTHESIA 221 PRIMIPARAS (NO2 7 02)

	NUMBER	PER CENT
Whiffs .....	164	74.20
None .....	43	19.45
Partial Anesthesia .....	4	1.80
Complete Anesthesia .....	10	4.52

It is interesting to note that more than twice as many primiparas as multiparas go without anesthesia. We believe this is due to the fact that multiparas have had anesthetics in previous deliveries,

and consider it a necessity. However, we believe that a few whiffs of gas are beneficial if for no other reason than to prevent some patients from saying (over the bridge table) that she received nothing during her delivery. This factor has to be considered in private practice where competition is keen. Again NO2 and O2 in 80:20 mixture was used. Many of those who received a negligible amount of gas, turned their faces away from the mask when they felt themselves becoming narcotized. In most cases, the amount of gas given was determined by the patients' wishes. In a few cases we have insisted on a partial or complete anesthesia. The amount of gas used in the total 669 cases was eleven size E tanks. This does not include the anesthesia used in the sections nor in the 14 cases where complete anesthesia was used.

The episiotomies done in the primiparas reached a much higher percentage than in the multiparas. (Table 15).

TABLE 15  
EPISIOTOMIES 221 PRIMIPARAS

	NUMBER	PER CENT
Episiotomies .....	197	89.14
No Episiotomies .....	15	6.78
1% Laceration .....	6	2.71
2% Laceration .....	3	1.35

One of the most satisfying results in this method is the lack of morbidity in the baby as well as in the mother.

TABLE 16

## MORBIDITY

All patients home within 7 days

## HEMORRHAGE

2 patients required packing  
1 patient had fibroid (hysterectomy)  
1 patient had D & C six weeks later  
1 patient had cervical and vaginal tear

## TRANSFUSIONS

Given in 5 cases

## INFECTIONS

2 cases of cystitis  
Convulsions in 1 patient

There were no maternal deaths, although this is not significant in this small series of cases. All mothers left the hospital in seven days or less. Two patients, for no apparent reason, had a uterine inertia following delivery. A uterine pack was inserted for a few hours in each of these. Neither of them had to have a transfusion.

One patient had a submucous fibroid which continued with excessive bleeding. Three weeks following delivery a D and C was done which failed to stop the bleeding. The laboratory report showed a submucous fibroid. A hysterectomy had to be done at a later date.

One primipara who delivered spontaneously had a cervical and vaginal tear. The only explanation of this is that her tissues seemed very friable. Also, she probably began pushing before she was completely dilated.

One patient required a D and C six weeks after delivery. At the time of delivery her placenta had



to be separated manually, and it was apparently not all removed. I suspect this may have been a partial placenta accreta.

One patient had three convulsions following delivery of twins. Her toxemia came on during labor. She recovered and was discharged on her seventh postpartum day.

There were two cases of cystitis which occurred after the patient had gone home. There were no cases where pelvic infection was demonstrated.

There were no intrapartal deaths. In the three stillbirths listed in table 17, the fetus was dead prior to hospital entrance.

TABLE 17  
STILLBIRTHS AND NEONATAL DEATHS

Stillbirths .....	4
Neonatal Deaths .....	7
Congenital Hearts .....	4
Erythroblastotic Babies .....	3

The neonatal deaths also cannot be attributed to any method. Fortunately, autopsies were performed on all cases, so the diagnoses are correct. As far as we know, none of these babies have died since leaving the hospital. We have a fairly good check because one of us (FEF), gives pediatric care.

The large number of repeat sections has made the percentage a great deal higher than it otherwise would be. However, it is still a very low percentage (3.43 per cent). We do not try to deliver a patient from below who has had a previous section, no matter what may have been the reason for the original section.

TABLE 18  
SECTIONS EXPLAINED

Multiparas .....	Total	16
Repeats .....		13
Placenta Previa .....		2
Placenta Abruptio .....		1
Primiparas .....	Total	7
Toxemia .....		1
Arthritis .....		1
Fetal Heart Tones .....		1
Prolonged Labor .....		1
Small Pelvis .....		1
Diabetic With Toxemia .....		1
Transverse Position (Double Uterus) .....		1

The section done in the primipara in whom the fetal heart tones had become irregular and weak might possibly have not been needed. However, in this case, the couple had been married several years, and the mother had had two spontaneous abortions. At the time of the section she had been in labor about 14 hours and was dilated only 4 cm. All the babies from the sections are alive and well at the present.

#### CONCLUSIONS

1. We must first acknowledge the enthusiastic work and time spent by our two registered nurses, Miss Dorothy Bell and Miss Ardis Frieden. Had it not been for their untiring efforts and pleasant response to the patients, our work would not have

been as successful. The nurses who make a method such as this go over must be pleasant, dignified and understanding.

2. The total number of hours in labor is greatly reduced. This may be encouraging to those doctors who think the method is time consuming. It does take a great deal of time to organize in the beginning, but once the ball is rolling, many hours less are spent in the hospital by the attending physician.

3. Morbidity is greatly lessened in mothers and babies. The mothers seem to feel better during pregnancy, and especially following delivery. Only one in this series has required psychotherapy following delivery. The psychiatrist assured us that the method had nothing to do with her trouble.

Most of the babies began to cry immediately following delivery. They rarely showed anoxia or atelectasis. None of the babies actually required resuscitation, although a few were put in the air lock for removal of excessive mucous.

4. Deliveries are less complicated, which adds to the safety of the mother and baby. The safety factor is one of the most important points to be considered in any method used. The fact that no intrapartal deaths occurred is due in part to the method and, in part, to the constant attendance by the nurses. The frequent observations of fetal heart tones will save a few babies in any method. This constant observation cannot always be accomplished by busy hospital personnel.

5. Average loss of blood is much less, although uterine inertia may still occur as it did in two of these cases. Most obstetricians agree that deep anesthesia causes more bleeding. Of these patients, 98 per cent have normal hemoglobin figures when returning for their six weeks check ups.

6. No real attempt was made to evaluate the amount of pain or discomfort that these patients had. However, it is safe to say they must have had very little in the majority of cases, as evidenced by their enthusiasm in recommending the method to other expectant mothers whom we are now attending.

7. Support during labor by properly trained nurses makes the program more successful. We feel that a trained person should give support from the time active labor begins until the baby is delivered. We have tried never to leave these patients alone. One of our nurses is with the patient from the time she begins active labor. We also feel that it is beneficial for the obstetrician to put in an appearance early in labor, and to be present especially during the transitional stage. The failure of the obstetrician to be on hand at this stage may cause the patient to become anxious and thus lose control and no longer be able to relax. We never leave the hospital when a multipara is in active labor.

8. We believe that the few people who are criticizing the method have probably not given it a fair trial, or else may have had a deflation of



their egos when they saw how successfully a patient could accomplish, with proper preliminary training, what a physician has trained for years to do with all sorts of specialized drugs and instruments.

If these few critics would take the time to train a few patients rather than to quibble over the term "natural childbirth," and whether a patient is "hypnotized" or "relaxed," I believe they would find their time well spent and would enjoy the results.

Also, we do not especially favor the term "natural childbirth" and its implications, but we do approve of the satisfactory results we are obtaining, no matter what term may be used to describe the method.

Like others, we feel that having a baby is a muscular effort.<sup>5</sup> In fact, the second stage is a strenuous muscular effort. In spite of this, doctors for years have delivered babies without giving instructions for muscular preparation to the mother, even though they would not expect an athlete to take part in a tournament without training in his particular field.

#### BIBLIOGRAPHY

1. Thoms, H.: Training for Childbirth: A Program of Natural Childbirth with Rooming-in, New York, McGraw Hill, 1950, p. 114.
2. Thoms, H.; and Wyatt, R. H.: One thousand consecutive deliveries under a training for childbirth program. *Am. J. Obst. & Gynec.*, 61:205-209 (February) 1951.
3. Williams, J. W.: Obstetrics, New York, Appleton-Century Co., Stander, 7th edition.
4. Reid, D. E.; and Cohen, M. E.: Evaluation of present day trends in obstetrics. *J.A.M.A.*, 142:615-623 (March 4) 1950.
5. Heardman, H.: A Way to Natural Childbirth, Baltimore, Williams and Wilkins Co., 1949.

### SECONDARY HEMORRHAGE POSTADENOTONSILLECTOMY

JACK V. TREYNOR, M.D.  
COUNCIL BLUFFS

In 1947 I presented the following unpublished paper to the Kansas City Otolaryngological Society.

"One of the most annoying experiences in the practice of otolaryngology is the hemorrhage that occurs late in convalescence from tonsillo-adenoidectomies. The patient has been doing well in every respect; his sore throat has begun to abate and he is about ready to forgive the surgeon when, usually on the sixth postoperative night, the tonsil or adenoid fossa begins to bleed. Control of such hemorrhage is rarely difficult but is decidedly unpleasant for the patient and is equally inconvenient for the surgeon. Strangely enough, little or no investigation of this condition was undertaken until the last few years. As late as 1941, Marvin Jones,<sup>1</sup> in an excellent paper on hemorrhage in otolaryngology, failed to mention any but mechanical means of controlling such hemorrhage.

"Each of us tried to improve his operative technique and warned the patient against overactivity, sexual excitation or irritative and mechanically dif-

ficult foods. We made preoperative coagulation and bleeding studies routinely in an effort to weed out the potential bleeders. But the reports of late secondary hemorrhage continued as high as the frankness of the reporting surgeon.

"We find the first indication of a controlled effort to understand this condition was made in 1944. Assuming that infection was responsible, McGovern<sup>2</sup> gave 150 consecutive patients sulfathiazole gum routinely through the postoperative period. However, two of these patients had late secondary bleeding, mild in both instances. In his paper, McGovern<sup>2</sup> mentions the adverse effect of salicylates, but apparently limited his investigation to the effect of sulfathiazole. During the same year, Preston<sup>3</sup> was able to reduce his incidence of such bleeding to 2.08 per cent in 385 cases by the pre and postoperative use of vitamin K, although the results were not published until 1946.

"From 1944 to 1946 many articles were published on this subject, most of them dealing with deficiency of prothrombin and vitamin C. Of these reports, the work of Neivert and his group at Columbia was outstanding. In 1944<sup>4</sup> and 1945<sup>5</sup> they reported, 'While in rare cases, the cause of late post-tonsillectomy hemorrhage may be trauma, menstruation, infection, deficiency of vitamin C or some blood dyscrasia, our observations to date suggest that one of the most important factors is a reduction of the prothrombin of the blood brought about by the use of acetylsalicylic acid or salicylates. The hypoprothrombinemia interferes with coagulation. However, with the simultaneous administration of a vitamin K-like substance, the prothrombin lowering effect of salicylates will be overcome and, consequently, normal coagulation can take place.'

"In July 1945, Singer<sup>6</sup> ascribed the total absence (sic) of late secondary hemorrhage in Europe to the fact that no aspirin is used. He operated on 75 consecutive cases in which no salicylates were permitted and in which no bleeding occurred. He intimated that the frequent postoperative extravasation of blood into the soft palate is due to aspirin and is a forerunner of active bleeding.

"Both studies stem from the work on hypoprothrombinemia due to salicylates reported by Link,<sup>7</sup> Rapaport,<sup>8</sup> Meyers<sup>9</sup> and others.

"In a second approach, reported in June 1946, Neivert<sup>10</sup> and his co-workers, using 5 mg. per cent as the lower limit of normal for blood plasma ascorbic acid, studied a series of 246 individuals undergoing tonsillectomy. Of this number, 162 exhibited hypovitaminosis C either pre or postoperatively. Of 21 (or 8.5 per cent) late hemorrhages, 15 occurred in the group with subnormal plasma levels of vitamin C preoperatively. Of the six hemorrhages appearing in the group with normal preoperative C level, four occurred in those who postoperatively showed subnormal plasma C and but two in those whose postoperative C level remained normal.

"In spite of the reports quoted, it is difficult to



accept the role of vitamin K and hypoprothrombinemia in late secondary bleeding, since coagulation takes place days before the untoward incident, and since it seems fair to assume that, other conditions being normal, the usual secondary healing mechanisms have taken over. In discussing the action of prothrombin, Quick<sup>11</sup> states that abnormal bleeding due to prothrombin deficiency will not occur unless plasma prothrombin is 20 per cent below normal, a level which has not been shown to exist in any of the published reports on late secondary post-tonsillectomy hemorrhage. It seems more logical that the *quality of healing* as influenced by plasma ascorbic acid and other factors may be the basic faculty. Many reports on wound disruption in relation to C vitamin deficiency tend to support this theory. A parallel situation occurs in cataract surgery: spontaneous hemorrhage into the anterior chamber on or about the sixth postoperative day in which avitaminosis C has been implicated. The fact that excretion and tissue depletion of vitamin C is hastened by salicylates is highly significant and may explain the hazard of this substance on the basis of a C vitamin deficiency irrespective of the vitamin K intake. Insofar as late secondary hemorrhage following tonsillectomy is due to general nutritional factors, the evidence to date logically points to avitaminosis C. An adequate intake of this substance should materially reduce such accidents.

"My own experience and that of the writers quoted indicates there will be some late bleeding, in spite of adequate plasma levels of both vitamins C and K. Although general factors other than vitamin deficiency may be involved in this refractory group, I am inclined to believe that local conditions may be more logically implicated. A review of the normal postoperative course contains several possible clues.

Immediately following the removal of the lymphoid mass, there is varying degree of hemorrhage persisting until the more minute vessels have retracted and constricted and their lumens, too, have been plugged by coagulation. Assuming that immediate surgical hemostasis has been adequate and that there is no recurrent bleeding within the next few hours, the healing processes will have begun.

"By the end of 24 hours the tonsil fossa is very lightly covered with a grayish exudate and by the end of the second postoperative day there is a heavy, almost leathery, gray coagulum overlying the entire operative surface. Until the fifth day there is little visible change in this covering, but by the sixth day the coagulum is definitely thinning and from this point on rapidly disappears, apparently by dissolution, rather than by sloughing. One can assume that during this period there has been a simultaneous infiltration of the thrombosed superficial vessels with fibroblasts and a progressive and usually adequate fibrosis and permanent closure. Epithelization occurs as the edges of the coagulum recede, so that healing is

usually complete by the tenth to the fourteenth postoperative day.

"Apparently, as long as this coagulum is heavy and firmly adherent to the surface, as an actual surface extension of the occluding vascular thrombi, there is no bleeding. If the coagulum is prematurely removed, one or several occluding thrombi may adhere and follow. Bleeding may recur at these points but under normal conditions will again be promptly and spontaneously checked by the usual hemostatic phenomena.

"If, by the time the coagulum has ceased to splint the fossae, the occluding thrombi have not been well replaced by scar tissue, bleeding may occur, especially after minor trauma, physical exertion, etc. Vitamin C deficiency would explain this occurrence on the basis of poor healing quality. If bleeding does begin, its persistence could be due to low blood prothrombin. But where both vitamins C and K are present in normal circulating amounts, bleeding of this type should not recur. The stimulus for proper healing and the elements necessary for normal coagulation are in no known way deficient, at least in the circulating blood. Liver damage from anesthesia,<sup>11</sup> exposure to excessive heat<sup>12</sup> and gross infection of the fossae have been suggested as factors. The first two would seem to act through their adverse effect on prothrombin formation, but they should not occur in the presence of high C and K vitamin levels and high pre and postoperative carbohydrate intake. My own records certainly suggest a connection between the type of bleeding under discussion and the onset of periods of excessive heat, but I have seen no bleeding in severe acute infection of the postoperative fossa and there has been no evidence of gross fossa infection in any of my bleeding cases.

"I suggest that the most logical clue to the solution of this problem may be found in the process by which the coagulum is dissolved. It would seem to be a 'digestive' process, the ferment of which may reside in the saliva or in the coagulum itself. It is known that saliva contains a proteolytic enzyme which, under abnormal conditions of trauma, organic foreign body and psychic response to pain, may be increased in amount or potency. Many bacteria, particularly the saprophytes, which are surely present in the coagulum, have the function of protein digestion. The digestive process, whatever its source, may extend beyond the depths of the matrix, attacking and destroying the young fibrosing tissue which is replacing the occluding thrombi.

"It may be that a study of the saliva under conditions which exist after tonsillectomy may suggest means of modifying its proteolytic activity. The use of sulfathiazole gum<sup>2</sup> has been shown materially to reduce the number of late secondary hemorrhages. One may deduce that by restricting the growth of certain organisms in the coagulum, a reduction in chemical attack on the

fossa will be accomplished. Further study may make it possible to identify the organisms responsible for these phenomena and suggest controls less objectionable than those now in use."

#### PRESENT EVALUATION

Since the above was written I have become convinced that my speculation was correct: that chemical variation within the protective postoperative coagulum is the essential cause of late secondary hemorrhage, this variation apparently being due to salicylate concentration and saprophytic infection.

In two excellent reports, Fox and West<sup>13</sup> admit that administration of vitamin K will protect a normal individual against a salicylate induced hypoprothrombinemia, but they do not consider that hypoprothrombinemia is the cause of late tonsillar hemorrhage. Rather, they are convinced that "the high incidence of late tonsillar bleeding in patients using aspergum is due probably to some local effect on the wound."

In support of their conclusions they offer their experience with three groups of patients:

Group I (199 patients) received aspergum freely and no vitamin K; 8.5 per cent had late hemorrhage.

Group II (128 patients) received aspergum freely plus vitamin K (10 mg. b.i.d.); 10.5 per cent had late hemorrhage.

Group III (184 patients) received no aspergum and no vitamin K; 0.1 per cent had late hemorrhage.

An even more damning indictment of aspirin is found in the figures cited by Wright and Pray.<sup>14</sup> In a group of 499 children receiving both aspirin and vitamin K, the incidence of late bleeding was 12 times that in a group of 644 receiving vitamin K but no aspirin. In another similar survey the incidence of bleeding in the aspirin-vitamin K group was 17.4 per cent, as compared to 1.5 per cent in the vitamin K group which received no aspirin.

For a third study in which aspirin was allowed without restrictions to 411 children, vitamin C was given pre and postoperatively to alternate patients. The incidence of late bleeding was 7.2 per cent in those taking vitamin C and 7.7 per cent in those taking no vitamin C.

Coombs<sup>15</sup> and Jones,<sup>16</sup> whose papers are not as well documented, apparently concur in condemning salicylates after tonsillectomy. However, they feel that vitamin K and vitamin C singly or together can prevent the ill effects of aspirin.

In their second report on the effects of aspirin, Fox and West<sup>17</sup> also approach the problem of infection of the coagulum. They say, "In order to determine the possible effects of an antibiotic (tyrothricin) and of a local anesthetic (benzocaine) on tonsillar wound healing and late tonsillar bleeding, 159 patients were studied. These patients were provided with a troche containing benzocaine and tyrothricin. No other treatment

was used postoperatively. No case of postoperative bleeding occurred in this sub group. The fossae were universally cleaner and free from excessive granulation tissue."

Jones<sup>16</sup> routine use of sulfathiazole powder by blower and 20 per cent aqueous sulfathiazole suspension as nasal drops is credited by him with material reduction in late bleeding. (This recalls McGovern's 1944 success<sup>2</sup> with sulfathiazole gum.)

These successes in the control of late bleeding by the use of chemotherapy and antibiotics seem to confirm my early speculation that infection of the coagulum must play an important part in the premature dissolution of that coagulum. Recent discovery of the proteolytic activity of the enzymes elaborated by *Streptococcus hemolyticus* C<sup>18</sup> may explain this dissolution. It also suggests that other coexisting organisms may elaborate enzymes equally able to weaken the matrix upon which healing is taking place.

Reliance on the pre and postoperative use of vitamins C and K proved for me a slender reed. Because of the summer and fall epidemics of poliomyelitis from 1947 through 1949, it seemed advisable to perform most of our tonsillo-adenoidectomies in the winter and spring. As a consequence, we were working in a field which was far from ideal from the standpoint of extra vascularity, as shown by an incidence of late hemorrhage which averaged 9.4 per cent for the three years cited. These figures represented only those cases which demanded definitive hemostasis.

Beginning with January of 1950 the following program was instituted:

#### Preoperative

Vitamin K, 4 mgm. 4.i.d. for 3 days.

Liberal fruit juice intake.

High sugar intake.

#### Postoperative

Penicillin injected days 0 and 1.

Ascorbic acid 200-400 mgm. days 2-7.

Triple sulfa (dose for age) in children days 2-7.

Tyrothricin-bacitracin-benzocaine troche 4.i.d. in adults days 1-7.

Normal diet encouraged on day 2.

Any chewing gum except aspirin gum ad lib.

Absolutely no aspirin or variation thereof.

Although the winter and spring months were again the most active operative periods in 1950, in 307 cases there were four late hemorrhages, or 1.3 per cent. In 1951, there were two late hemorrhages among 314 cases, or .64 per cent. It is reasonable to assume that, other conditions being comparable, this sharp reduction from 9.4 to .97 per cent must have been due to the fact that the supporting postoperative coagulum was not subjected to premature dissolution by aspirin concentration and saprophytic infection.

#### BIBLIOGRAPHY

1. Jones, M. F.: Hemorrhage in otolaryngology; methods



of control. *New York State J. Med.*, **41**:580-587 (March 15) 1941.

2. McGovern, F. H.: Prevention of secondary post-tonsillectomy hemorrhage with sulfathiazole gum. *Arch. Otolaryng.*, **40**:196-197 (September) 1944.

3. Preston, H. G.: Delayed tonsillar hemorrhage. *Virginia M. Monthly*, **73**:252-256 (June) 1946.

4. Neivert, H.: Lecture to N. Y. Academy Medicine (May) 1944.

5. Neivert, H.: Late secondary tonsillar hemorrhage; studies of prothrombin and vitamin K. *Arch. Otolaryng.*, **42**:14-18 (July) 1945.

6. Singer, R.: Acetylsalicylic acid, probable cause for secondary post-tonsillectomy hemorrhage; preliminary report. *Arch. Otolaryng.*, **42**:19-20 (July) 1945.

7. Link, K. P.; and others: Studies on hemorrhagic sweet clover disease; hypoprothrombinemia in rat induced by salicylic acid. *J. Biol. Chem.*, **147**:463-474 (February) 1943.

8. Rapaport, S.; Wing, M.; Guest, G. M.: Hypoprothrombinemia after salicylate administration in man and animals. *Proc. Soc. Exp. Biol. & Med.*, **53**:40-41 (May) 1943.

9. Meyer, O. O.; and Howard, B.: Production of hypoprothrombinemia and hypocoagulability of blood with salicylates. *Proc. Soc. Exp. Biol. & Med.*, **53**:234-237 (June) 1943.

10. Neivert, H.; Pirk, L. A.; and Engelberg, R.: Late secondary tonsillar hemorrhage; studies of ascorbic acid. *Arch. Otolaryng.*, **43**:568-577 (June) 1946.

11. Quick, A. J.: Contribution of laboratory to treatment of hemorrhage. *Illinois M. J.*, **79**:346-349 (April) 1941.

12. Mills, C. A.; Cottingham, E.; and Mills, M.: Environmental temperature and vitamin K deficiency. *Am. J. Physiol.*, **141**:359-362 (May) 1944.

13. Fox, S. L.; and West, S. B., Jr.: Vitamin K and late tonsillar hemorrhage. *Laryngoscope*, **57**:564-574 (August) 1947.

14. Wright, W. K.; and Pray, L. G.: Factors influencing late secondary hemorrhage following tonsilloadenoidectomy. *Arch. Otolaryng.*, **53**:227-284 (March) 1951.

15. Coombs, A. J.: A study of delayed bleeding following removal of the tonsils and adenoids. *Laryngoscope*, **60**:296-307 (March) 1950.

16. Jones, E. H.: Prevention of secondary hemorrhage following tonsillectomy. *South. Med. J.*, **42**:124-127 (February) 1949.

17. Fox, S. L.; and West, G. B., Jr.: Bleeding following tonsillectomy and adenoidectomy. *Ann. Oto., Rhin. & Laryng.*, **57**:1032-1040 (December) 1948.

18. Tillett, W. S.: Studies on the Enzymatic Lysis of Fibrin and Inflammatory Exudates By Products of Hemolytic Streptococci. Springfield, Harvey Lecture Series, 1949-1950, C. C. Thomas, 1952.

State University of Iowa  
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE  
November 5, 1952

SUMMARY OF CLINICAL RECORD

THIS WOMAN, a 55 year old bookkeeper, was first seen in the Medical Out-Patient Clinic complaining of nausea, vomiting, pain in the abdomen and a weight loss of 16 pounds, all of ten months' duration. Soon after the onset of these complaints the patient was hospitalized elsewhere. Following a week of sedation and hydration, her distress subsided and she felt well for three months. Attacks of vomiting then began again, occurring every two to three days. Constant midepigastria pain was aggravated by fatigue and emotional upsets. Temporary relief could be obtained by ingestion of food or vomiting, but not by antacids or antispasmodics. At first the fatigue seemed worse in the morning and late afternoon, but gradually became continuous.

For six months prior to admission body temperature had been elevated from 100 degrees to 100.5 degrees F. in the afternoon. Her doctor said that the blood pressure had been high during the past year. Her appetite was poor, but bowel move-

ments continued to be normal. No blood in the stool was apparent to the patient.

Past history revealed the diagnosis of Hunner's ulcer, made by her physician four years prior to admission. The lesion was treated by fulguration. Two years later she passed several stones per urethra. Since that time she had improved, but a nocturia (six or seven times) was still present. There was no hematuria, but her physician told her the urine contained pus. The menopause appeared at 41 years. There had been no bleeding since that time. The patient had been married sixteen years prior to admission, followed by divorce. Pregnancy had never occurred.

Physical examination revealed a pale, chronically ill woman. Blood pressure was 160/100 mm. Hg. The pulse rate was 68 and the rhythm regular. Heart and lungs were normal to auscultation and percussion. Later, an apical systolic murmur was reported. There was a slightly tender, smooth mass in the left flank which moved with deep respiration. Pelvic and rectal examinations were normal. There was no peripheral edema and peripheral pulses could be palpated. Reflexes were normal.

Laboratory studies were as follows: hemoglobin, 11 Gm. per 100 ml.; red blood cells, 3.2 million per cu. mm.; white blood cells, 6,200 per cu. mm., and a normal differential smear. Blood Kolmer and Kline tests were negative. A voided urine specimen was acid, with a specific gravity of 1.010. It showed a trace of albumin but no sugar or blood. Microscopically, it was loaded with white blood cells. Photofluorographic examination of the chest on admission was normal. An x-ray examination of the upper gastrointestinal tract was reported as normal. An intravenous urogram was considered indeterminate: only a small amount of opaque medium was seen in the left kidney and none was seen in the right kidney.

Four days after the first visit to the Medical Out-Patient Clinic, the patient was transferred to the Department of Urology. Repeat intravenous pyelograms were again indeterminate. The blood urea nitrogen was 63 mg. per 100 ml. and the creatinine was 7.5 mg. per 100 ml. Cystoscopic examination revealed a small bladder, with beefy red mucosa from which white necrotic tissue was sloughing. The ureteral orifices could not be identified because of this intense reaction, but on two further attempts during the next ten days, cloudy urine could be seen coming from the left ureteral orifice. A catheter was passed up the ureter. Seventy cc. of purulent urine were obtained. Films were taken following instillation of 60 cc. of 20 per cent skiodan. The right ureteral orifice could still not be seen, and no x-ray studies with opaque medium could be made of the right collecting system.

During her subsequent course, the patient had a body temperature elevation of 104 degrees F. Intensive antibiotic therapy was instituted. Al-

though parenteral fluids were given to meet all body requirements, the urinary output kept decreasing. Daily fever continued to 104.2 degrees F. Two cultures of catheterized urine were obtained.

The patient did not improve. A week following admission, the blood urea nitrogen was 92 mg. per 100 ml.; the creatinine 6.7 mg. per 100 ml.; the CO<sub>2</sub> combining power 30 volumes per 100 ml.; the blood chlorides 588 mg. per 100 ml., and total proteins of the serum were 5.07 Gm., with albumin 3.37 and globulin 1.70 Gm. per 100 ml.

An emergency left nephrostomy was performed. During intubation of the patient for anesthesia, a bleeding site was opened up somewhere within reach of the tube. Postoperatively, the patient had a small, steady oozing of blood from the mouth. There was some bleeding from the renal incision during the first 24 hours, then drainage at this site became minimal. The patient seemed to improve for three days. The blood urea nitrogen was 60 mg.; the creatinine 8.3 mg.; the CO<sub>2</sub> combining power 30 volumes, and the chlorides 538 mg. per 100 ml. However, the urine output began to gradually diminish. Fluid intake was adjusted to the calculated and recorded fluid output. Severe dyspnea developed suddenly following a blood transfusion, rales could be heard over both lungs and the blood pressure was 70/50 mm. Hg. There was no peripheral edema. Following a medical consultation, 11 grains of aminophylline and 0.1 mg. of digoxin intravenously were given, leg and arm tourniquets were applied and intranasal oxygen was started. The dyspnea was somewhat relieved and the chest became less congested to auscultation. Digitoxin, 0.2 mg. intramuscularly, was given daily. Death came on the sixth postoperative day, preceded by 48 hours of coma.

#### SUMMARY OF NECROPSY FINDINGS

The principal lesions were found in the genitourinary tract. The right kidney weighed 120 Gm. and the left kidney, with blood clots, weighed 300 Gm. Both kidney pelvises were filled with caseous material. The renal papillae were destroyed, and focal areas of tuberculous infection were scattered in cortical and medullary tissue. The capsules were thickened and scarred.

The right ureter was not dilated. It was blocked 2 cm. from the ureteropelvic junction by the inflammatory lesions; the left ureter, although the site of tuberculous infection, was patent and dilated to 1.3 cm. in diameter. The urinary bladder and uterine cervix were also involved by the tuberculous process. Pelvic peritonitis and a retroperitoneal accumulation of fluid along the course of the left ureter were associated with leakage of the nephrostomy wound. One small active tubercle, 1.5 mm. in diameter, was found in the lung, but no evidence of an old primary infection complex was seen.

Necrotizing lobular pneumonia was present in

the bases of both lungs. Fibrous pleuritis was the residuum of a previous infection.

Postmortem heart blood determinations for blood urea nitrogen and blood creatinine were 100 mg. per 100 cc. and 9.0 mg. per 100 cc., respectively.

#### NECROPSY DIAGNOSES

Tuberculosis, active: kidneys, ureters, urinary bladder, uterine cervix.

Nephrostomy, left, postoperative.

Peritonitis, pelvic.

Pleural adhesions, bilateral.

Necrotizing lobular pneumonitis, lower lobes, bilateral.

Fetal adenoma, thyroid gland.

#### CLINICAL DISCUSSION

*Dr. Rubin H. Flocks, Urology:* This patient presents several interesting problems. The first paragraph outlines the symptoms that brought her to the hospital. They are primarily suggestive of some type of gastrointestinal disturbance. Symptoms such as these may, of course, be due primarily to gastrointestinal disturbance, but may also be due to renal insufficiency. Renal insufficiency of any great degree is frequently associated with loss of appetite, changes in the water balance leading to dehydration and, later, nausea and vomiting. The problem at the time of admission was to decide whether these symptoms were primarily due to difficulty in the gastrointestinal tract or in the urinary tract.

As we go along in her history, we find that she had a low grade fever, followed by evidence of urinary tract infection. A diagnosis of Hunner's ulcer was made from the story of pus in the urine. The fact that she had pus in the urine made us wonder whether or not renal insufficiency was a cause for the gastrointestinal symptoms.

Before we go on, I want to say just a few words about Hunner's ulcer. It is a lesion, the etiology of which is unknown. It is a submucous inflammatory reaction, associated with frequent and painful urination, but for all practical purposes is never associated with pus in the urine. The urine is always clear. You practically never see a patient with a true Hunner's ulcer who has a secondary infection. The fact that pus in the urine had been present over a period of several years and that she had passed several stones through the urethra would seem to indicate that the original diagnosis of Hunner's ulcer was not correct. Rather, it suggests that this patient had some type of lesion in the bladder and possibly elsewhere in the urinary tract, which was associated with the formation of stones and with the presence of a severe secondary infection. That, of course, might very well progress to renal insufficiency and cause the symptoms of nausea and vomiting which were the complaints on admission to the hospital.

On physical examination, she showed definite



evidences of chronic illness. The blood pressure was slightly elevated. A readily palpated, slightly tender mass was found in the left flank. Of course, this hooked up with the findings in the urine and made it more likely that the mass in the left side was a large kidney due to some underlying pathologic process there. There was a secondary anemia. A voided urine specimen on admission showed a great many pus cells. The pH of the urine was acid, which is significant. The specific gravity was 1.010, there was a trace of albumin and a great many white blood cells. A smear of this urine by the ordinary methylene blue or gram stain, to see what organisms were present, apparently was not made. Thus the routine physical examination, in which this little laboratory examination is really an essential part, did not show whether or not there were organisms present to account for the pyuria.

A patient who has a long history of bladder inflammation, pyuria, the passage of pieces of stones and renal insufficiency may have one of two things: a non-specific pyogenic type of infection, both in the bladder and in the upper urinary tract, or a tuberculosis of the upper urinary tract with the severe cystitis which is frequently associated with this. The latter is the cause of the bladder symptoms of renal tuberculosis. Usually, the differential diagnosis between these two types of conditions can be made by the history and routine physical examination because, in the pyogenic type of infection, chills, high fever and high leukocytosis are present, in contrast with the low-grade fever or absence of fever and chills ordinarily seen with a tuberculous infection. The exception is when the tuberculous infection becomes severely secondarily infected with pyogenic organisms. It would have been interesting to have found acid-fast organisms in stained smears of this urine. However, stained smears were not made.

Ordinarily, in pyogenic infections, the organisms are urea-splitters and the pH of the urine is alkaline. In this case it was acid. This is the type of urine, as far as the hydrogen ion concentration is concerned, that is associated with tuberculous infection. Therefore, there are many things about this case that suggest, up to this point, a tuberculous infection in both kidneys and the bladder which produced so much damage to the kidneys as to cause severe renal insufficiency.

X-ray films were subsequently made of the gastrointestinal and urinary tracts. Dr. Forbes will now show them.

*Dr. Stephen A. Forbes, Radiology:* Examination of the upper gastrointestinal tract, following the oral administration of barium sulfate in water, showed a fluoroscopically normal stomach and duodenum. The films confirm the fluoroscopic impression.

Intravenous pyelograms show poor detail, obscured by residual barium in the colon, and gas in the transverse and splenic flexure portions. We

are unable to detect an abnormal soft tissue shadow in the region mentioned by Dr. Flocks. We have not excluded abnormal left kidney mass by this examination. A trace of opaque medium can be seen in both renal areas, but the amount is insufficient for reliable interpretation of the collecting systems. Examination is indeterminate, aside from demonstrating poor renal function bilaterally.

*Dr. Flocks:* It has been shown that after approximately three-quarters of the normal renal tissue has been removed from a dog, the blood urea nitrogen and creatinine remain normal. When more is removed, these volumes rise. When this occurs in patients, the intravenous pyelograms show no function, for all practical purposes. If less than that amount of tissue has been destroyed or is not functioning, the intravenous pyelograms will usually show some excretion. The intravenous pyelograms that were made, just shown by Dr. Forbes, indicate that the blood urea nitrogen and creatinine certainly should be elevated. As we go along we find that they were elevated. The blood urea nitrogen was 63 mg. per 100 ml. and the creatinine was 7.5 mg. per 100 ml.

In order to be more certain about the urinary tract, since these pyelograms showed nothing except tremendous interference with function, cystoscopy and retrograde pyelograms were made.

Cystoscopic examination showed a tremendous cystitis. Since this was so intense, a differential diagnosis could not be made between pyogenic and tuberculous infection. Sometimes it is possible to do this. Sometimes the ureteral orifices show marked retraction due to the chronic scarring associated with tuberculous infection. Sometimes the ulceration is very characteristic, but ordinarily it is difficult to determine. One could not make the differential diagnosis from the cystoscopic examination, in this case.

The right ureter could not be seen because of infection. Therefore, it could not be catheterized. The left ureter was catheterized. The catheter passed up the ureter readily and 70 cc. of grossly purulent urine were obtained. The left pyelogram was made. It was not typical for a tuberculous infection. Usually the pyelogram of tuberculosis of the kidney, pelvis and ureter shows a ureter which is shortened and irregular, with irregular changes in the areas of ulceration and feathering in the region of the calices. This is entirely different from the tremendous distention and smooth but very uniform changes throughout the kidney pelvis seen with the ordinary pyogenic infection. The description here suggests either, but looks more like a pyogenic infection.

Since renal tuberculosis, for all practical purposes, is always hematogenous in origin, it would be interesting to find evidence of an original focus or some portal of entry for the tubercle bacillus. There is nothing in her history, however,



which would indicate that she had an old focus. The x-ray of the chest was normal.

The bacteriological study of the urine to determine the presence or absence of a tubercle bacillus is important. There have been many advances made along these lines. Will you please tell us about that, Dr. Kallio?

Dr. Reino E. Kallio, *Bacteriology*: On request we do examinations for *Mycobacterium tuberculosis* on a variety of specimens. In the present instance, of course, the specimen was catheterized urine. These are treated with oxalic acid to kill all the pyogenic and other contaminating organisms and then centrifuged. From the sediment we do three different types of examinations. They are done in parallel. These are always done in three's whenever a guinea pig requisition is received.

These three different types of examinations consist of: (1) inoculation of the guinea pig in the groin with this material; (2) culture on a special Petraghani medium suitable for the growth of *Mycobacterium tuberculosis*, and (3) the standard acid-fast stain which may be done either by the Ziehl-Neelsen or by the newly introduced Hallberg technic. We do these different things for the following reasons: If we take all of the positive cases that come up in the guinea pigs and set this number at 100, because we lack any other criterion to use as 100 per cent, we will find that the parallel cultures follow along with these only to the extent of 75 per cent. (I have culled these figures from the records of our diagnostic laboratories for a period of four or five years.) For each 100 guinea pigs that have shown positive symptomology and from which typical acid-fast organisms could be isolated (either from the infected spleen or the lymph nodules), only 75 per cent of the concurrent cultures were positive. Of the acid-fast slides made directly on the sediment from the catheterized urine, only 35 per cent were positive. Hence it would be simple to miss the acid-fast organisms if one used only the slides. It would still be possible to miss it if only the cultures were used, and it may even be possible to miss, using all three.

In a very few instances (about one per cent of the cases) we have isolated acid-fast organisms from culture when we have not had "takes" in the guinea pig. In these instances the organisms were taken from culture and reinoculated into another guinea pig. In every instance these proved to be saprophytic mycobacteria. To repeat, these instances represented less than one per cent of all the hundreds that we have examined during the period of time mentioned.

I should like to say also that in those instances in which tuberculosis has been treated with a variety of drugs, it is difficult to demonstrate the tubercle bacillus by any of the methods which I have outlined. The reasons for this we do not know. We do know, however, that occasionally we can get a swollen lymph node in a guinea pig which makes it extremely difficult to demonstrate

typical acid-fast rods, as one should be able to do. Whenever we have these cases, we take the material from this nodule and reinoculate a second guinea pig. In every case that we have thus far studied we have found that these organisms are either nonvirulent and do not set up an infection or they were not *Mycobacterium tuberculosis* in the first place.

We do not routinely do sensitivities for various drugs with *Mycobacterium tuberculosis* because of the difficulties involved. They are difficult to do with any degree of success. To date, we have not switched over to any of the newer media, such as the Dubos' medium, because we do not feel that they are superior to the so-called Petraghani's medium we are now using. It has worked excellently for research workers using relatively large inocula in pure cultures of mycobacteria.

Dr. Flocks: I don't see from the protocol that any cultures were obtained, but they probably were and just weren't included. The patient apparently had a diagnosis made, certainly an anatomical diagnosis could be made, of an inflammatory lesion involving the bladder, both ureters and both kidneys, completely blocking and probably destroying the right kidney and partially blocking the left kidney. The partial obstruction on the left was overcome with a ureteral catheter.

In spite of antibiotic therapy and drainage through a ureteral catheter, the patient did not improve. You notice the creatinine remained elevated. That led to a decision to better drain the left kidney through a left nephrostomy.

Some excessive bleeding was noted during the intubation of the patient for anesthesia. This is commonly seen in uremic patients. Her renal insufficiency therefore explains the phenomenon.

Following the nephrostomy drainage, the patient did not improve markedly. The blood urea nitrogen and creatinine remained elevated. From those two findings and lack of improvement, one of two things was apparent: that the kidney was tremendously destroyed due to a pyogenic infection or that renal tuberculosis was present, because renal tuberculosis usually produces an infection throughout the kidney tissue, the pelvis and the ureter which does not respond dramatically to nephrostomy drainage. The ordinary pyogenic infection, if not too severe, is much more likely to improve. Thus the course following the nephrostomy would suggest a diagnosis of tuberculous infection.

The immediate cause of death was apparently an acute sudden phenomenon. When she was seen by a member of the Department of Medicine a tentative diagnosis of acute cardiac failure was made. In spite of intensive therapy, however, the patient expired. Does anyone want to make a comment with regard to the clinical aspects of this case? Dr. Bean?

Dr. William B. Bean, *Medicine*: The problem of what happened to this woman in the terminal

episode is not altogether clear. There is a good possibility that the heart failure was precipitated by either the transfusion or the infusion. People in a precarious state of fluid balance, with pulmonary edema, are easy to tip into acute collapse. I suppose that was the most likely kind of transfusion reaction. Either the blood was given too rapidly or, with blood, fluid was given and it overloaded the circulation. The dyspnea, rales, state of shock and low blood pressure certainly suggest that possibility. It is, of course, conceivable that she had an unrelated episode, such as an acute pulmonary embolus or pulmonary infarction, which might have produced the same picture of acute collapse. There is no record of pain, so that possibility is much less likely. Her response was poor. That doesn't tell us much about the mechanism. It may be that she had so little reserve that it took only a little, a very slight, insult to produce this crisis.

*Dr. Flocks:* Our clinical diagnosis, based on this story, would be bilateral renal tuberculosis with extensive renal and vesical damage and with the terminal mechanism as suggested by Dr. Bean.

In this respect the results of the bacteriological study of the urine would be of interest. If tubercle bacilli were found, the diagnosis would be confirmed. However, even if they were not found, tuberculous infection would not be ruled out, because of the difficulties involved in these examinations, as emphasized by Dr. Kallio.

*Dr. Jack M. Layton, Pathology:* Renal tuberculosis is usually secondary to a primary focus elsewhere in the body. Since it is usually contracted by the hematogenous route, the organisms must enter the kidney by way of the arteries. Therefore, the primary foci are distributed in relation to the distribution of the renal vessels. Most of the initial tubercles are situated in the cortex because the organisms are arrested in the interlobular arteries, the afferent arterioles or the glomerular capillaries. Occasionally, blood goes through the juxtamedullary glomeruli. Then the initial lesions may be found in the medulla.

The appearance of the renal lesions depends upon the usual factors which condition the appearance of a tuberculous lesion in any tissue of the body. Among these are the dose of bacilli, the degree of resistance of the host and whether or not the host had been exposed to tubercle bacilli previously. The presence or absence of ureteral obstruction is also a factor in the development of a hydronephrotic-type lesion.

So far as the development of renal lesions is concerned, one or several miliary tubercles originate in the renal parenchyma, usually in the cortex. These gradually enlarge and coalesce to form, first, conglomerate masses, which have a tendency to radiate toward the medulla in a streaking fashion. As these nodules become larger and the tissue is more completely broken down, caseating masses that may measure 2 to 3 cm. in

diameter occur. As long as the caseous material remains confined to the renal cortex and medulla, the nodules remain intact. Once they gain communication with the pelvis or a calyx, the caseous material is discharged, leaving a cavity which may be large or small, depending upon the size of the caseating mass. The ulcerating variety of renal tuberculosis is thus nothing more than the nodular type in which the caseous material has discharged into the urinary stream. As the lesion progresses, more and more of the parenchyma is replaced until ultimately there may be merely a shell of the former renal substance remaining.

If there be stricture of the ureter, usually due to tuberculous infection and less commonly to calculi or other types of obstruction, the renal pelvis and calyces become dilated and a hydronephrotic stage is noted. Secondary infection may be superimposed upon a tuberculous infection in these cases. The end healed stage of a tuberculous process in a kidney that was not the seat of a previous hydronephrosis is the contracted, scarred or calcified type of gross lesion. Tuberculosis is a rather rare occurrence in the kidney.

The histological features in renal tuberculosis are no different than in other organs.

Most of the urinary tract symptoms may be explained on the basis of a tuberculous cystitis. The destructive ulcerative lesions in the renal parenchyma may also account for some of the hematuria and pyuria. The constitutional symptoms are usually due to the presence of an active lesion elsewhere in the body, often in the lungs. Colicky pain which is sometimes present in the lumbar region results from an attempt of the ureter to expel debris or blood clots; occasionally it may be due to stone formation. The irregular outlines of the pelvis and calyces are associated with the excavation of the renal tissue by the inflammatory lesions described above. Hydronephrosis, when it occurs, is usually due to obstruction of the ureter or the ureteropelvic junction by inflammatory tissue.

*Dr. Flocks:* The treatment in this particular patient was, of course, emergent in nature because of the far advanced lesion. However, the treatment has always been medical and surgical. The patient was treated as are patients with pulmonary tuberculosis: rest, etc. As part of the regimen, any portion of the urinary tract that could be safely extirpated was removed. For example, if only one kidney was involved, that kidney was removed. Medical treatment was then continued.

In recent years the development of newer chemotherapeutic agents has altered this somewhat and has increased the efficacy of medical treatment, so that in some cases even bilateral lesions can be tremendously improved. This has brought about debate as to whether or not surgery was a necessary part of the treatment. Some wished to rely completely on medical treatment, even in unilateral cases. However, the majority



believe in combined treatment. Dr. Dorasin from Oakdale will say a few words about some of these newer chemotherapeutic drugs.

*Dr. Norman Dorasin, Oakdale Sanatorium:* The newest drugs out for the treatment of tuberculosis are the isonicotinic acid hydrazid type drugs. There is also an isopropyl derivative of one of these drugs, known as Marsilid. At Oakdale we have been using them for about six months. Approximately 100 patients have been treated. Although most of our cases have been pulmonary tuberculosis, we have had a few cases of tuberculous meningitis and one of miliary disease. We are now treating one case of renal tuberculosis. They have all been associated with pulmonary tuberculosis.

In general, the clinical results have been good, with the use of either Marsilid or Rimiform, a similar drug. They have produced an increase in appetite and a weight gain, sometimes up to 60 and 70 pounds, over a period of three or four months. The people have said they cough less. The sputum is much easier to raise and it is thinner and clearer in appearance. The amount of sputum is much less than it was before. There has been a general euphoria in a good percentage of the people. In addition to that, their clinical course is better. The temperatures come down. They have not been as toxic.

The only bad results we have found clinically with these drugs are possible psychoses, but no one can say definitely whether or not these cases were actually due to drugs. One case, it seems, is a drug psychosis. In others, it may be that the drug was just enough to tip them over the balance because they were not exactly showing normal behavior before the drug was started.

The laboratory results have shown much less improvement than the clinical results. As far as x-ray examinations are concerned, there have been a few cases showing remarkable improvement, but by and large, the x-rays have shown slight change. They are much slower in registering than the clinical course.

The sputum has converted in about one-fourth of the cases. By conversion we mean on concentrated studies: we do not count conversion on the direct smear. For what it is worth, there has been a reduction in the Gaffky count in a good percentage.

We ran into some trouble with the dosage. At first, in one of the drugs, we used too high a dosage. There were increased reflexes in most of the patients. They would have twitching all through the night and would wake up twitching. In addition, there was some parasympathetic stimulation. Most of them complained of dry mouth and difficulty in micturation. Some complained of sweating and constipation. There have been several cases of hemoptysis, which raised the question whether or not any anemia or other blood dyscrasia

was associated. Laboratory tests, not only at Oakdale, have proven that there is none.

As I said, there has been one case of miliary disease, found in a six year old girl. Although just recently admitted, she has shown some improvement on isonicotinic acid hydrazid and streptomycin.

We have had two cases of meningitis. One of them has been discharged and is evidently cured. The other is doing well. These are the first two cases of tuberculous meningitis that have ever been saved in the institution during the past 25 years.

As far as renal disease, there is only one case now under treatment. One kidney was removed many years ago for hydronephrosis. His urine was positive on culture. Just this past month it was converted by culture and guinea pig examinations.

Most of the research was done by Dr. Godfrey. There will be a report in the Trudeau Society paper in the near future on our results.

*Dr. Flocks:* I will take these last few minutes to summarize the situation in general with regard to renal tuberculosis and particularly with regard to this patient.

Renal tuberculosis is much less frequent than it used to be because of the better and earlier diagnosis and improved treatment of pulmonary tuberculosis. In most cases, it is secondary to an old pulmonary infection. One sees much less today than in earlier years.

Ordinarily, the first symptoms of renal tuberculosis are due to the associated cystitis, so that persistent frequency of urination and pyuria, which does not show pyogenic organisms on the ordinary smear (not done in this case), should make you suspect the possibility of urinary tract tuberculosis. Occasionally hematuria will be the first symptom in younger individuals. In this case, of course, the symptoms referable to the urinary bladder had gone on for a very long time, and bilateral infection had finally produced symptoms of renal insufficiency, so that when we saw her here, the condition was far advanced.

When these patients are seen, the earlier focus has subsided or is under control, so that the problem is primarily the management of the renal infection. If unilateral infection is present and proved by the combination of typical pyelography and typical urinary findings and bacteriological findings, nephrectomy is indicated if the other kidney is normal. Usually the patient is put to bed and given a course of chemotherapy. Then the surgery is performed followed by another course of chemotherapy. If the lesion in the one kidney is small and the other kidney is normal, consideration nowadays with the present chemotherapeutic agents can be given to partial nephrectomy instead of total nephrectomy, or sole reliance may be placed on medical treatment. If the lesion is bilateral, medical treatment is ordinarily to be pre-

(Continued on page 28)



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
MISS MARY L. McCORD, Managing Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
MR. DON L. TAYLOR, Advertising Manager.....Des Moines  
MISS JOYCE MEYER, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII

JANUARY, 1953

No. 1

## HAPPY NEW YEAR

Once more it is the pleasant occasion for the JOURNAL to wish its readers the best for the Holiday Season, to summarize some of the accomplishments of the past year and to look forward for the year ahead.

Your State Society is most happily situated in its new building at 529-36th Street, Des Moines. The need for this headquarters has been a pressing one for many years. Adequate space is now available for the executive offices and, in addition, there are ample facilities for meetings of boards, committees and other groups. You are urged to inspect this building at any time you may visit Des Moines. A further description of the building will be given in a future issue of the JOURNAL.

We would like at this time to commend the excellent work carried out by the Grievance Committee during 1952. We would also like to commend the television programs which have appeared during the past year. Although the audience is limited to the facilities of Station WOI-TV at Iowa State College, the area of coverage is large enough to reach a substantial portion of the state. Both of these programs have been carried out at the sacrifice of many hours of work away from the participating physicians' offices. All doctors may well be proud of the benefits which have resulted from the work of the Grievance Committee and our television program.

The JOURNAL again congratulates the Dean's Committee of the medical school at the State University of Iowa. We also sincerely hope that progress will be made in securing a dean for our

medical school. During 1952 the student AMA was recognized at Iowa City. This is a forward step, as 90 per cent of our medical schools have now become organized on this basis. While the student preceptorship program was not carried out completely during the past year, at least a good start was made, and the program should be in full swing at the end of the current school year.

Every indication points to 1953 as a year which will afford the medical profession every opportunity to make further advances in research, expansion of medical care and improvement in standards of treatment. Great opportunities are now available in the field of public relations, but they require the cooperation of all our members for fulfillment. With unity of purpose in mind, we cannot fail to produce results in 1953.

## THE PHYSICIAN AND CITIZENSHIP

During the past few months, vocal elements of the public and the press have been hacking away at the "citizenship requirement" demanded by the Iowa State Board of Medical Examination and Licensure. This Board has been pictured as arbitrarily and illegally demanding citizenship or its avowed intention, of all applicants, presumably because "the Board" wishes to prevent the D.P. physician from practicing in Iowa. The motives attributed to "the Board" range from pure obstinacy to an impure "closed shop" technic which slyly limits medical competition, enabling Iowa's physicians to amass fortunes at the expense of their patients' misfortunes. Let us admit that "the Board" has shown some obstinacy and confusion, but who among us, irritated by sniping and splashed by near-misses, would have shown less? Our duty as physicians is to defend the citizenship requirement or withdraw it—and since when has citizenship in these United States become indefensible?

What is a citizen? He is a person owing allegiance to our government. As such, he is entitled to reciprocal freedom, privilege and protection. He is a *member of our government*, not a subject of it. By projection (and definition) he also becomes a *useful and responsible member of his community*. Is that bad?

Are not the qualities of citizenship a part of the moral responsibilities a physician owes his community and his patients—those fellow citizen-members of these United States? The destiny of every physician is inexorably tied to that of his community. His culture, his knowledge, his traditions and his integrity become community property. All those qualities lumped together as "personality" are woven into the very fabric of his community—the fabric that makes Sioux City differ from Keokuk, and both differ from State Center.

It is inconceivable that an alien, owing his first allegiance to a foreign government, could ever merit the complete confidence of the community. Medicine demands confidence, just as confidence is demanded of medicine. The physician is not an

exact scientist. Factors in his equations are pain, despair, human frailties and life itself, the unknown X. Without utter confidence, oftentimes difficult to inspire at best, the pure science of medicine can be applied only ineffectually. Can an alien physician expect the confidences of the consultation room when he shirks the common responsibilities and goals implied in *true citizenship*?

Citizenship, of itself, is not a qualification peculiar to medical science; it is a privilege. But qualities necessary to citizenship are necessary to provide proper medical service in a community. "The Board" measures medical science by scholastic achievement; their *standard of intent* is a desire for citizenship. Is there a better measure of the physician's desire to merit his patients' confidence than the declaration that he casts his lot with theirs? We think not.

### EMERGENCY CALL SERVICE

In his address at the Public Relations Conference in Denver December 1, Edward J. McCormick, President-elect of the American Medical Association, stressed the need for more emergency call service on the county level. In 1948, 60 centers had an emergency service through which people might obtain a physician day or night. By 1952 there were 650 such systems in effect, a tremendous expansion in four years' time.

Dr. McCormick asked for still further expansion as soon as possible. The medical profession is still being plagued by the complaint that people are unable to obtain a physician in times of emergency.

Anyone connected in any way with the medical profession knows that some people lose their heads and fail to use common sense when trying to obtain a doctor. There are too many instances where a person calls to ask if the doctor is in, and when he receives a negative answer, hangs up without asking where the physician may be located and without stating the emergency nature of his call.

As physicians, we have a certain moral responsibility to educate our own patients along these lines. Most of us have, through the years, developed a certain routine for conducting our practice most efficiently. Our office or our home usually knows approximately where we can be reached. We should tell our patients this, and instruct them how to proceed, particularly when there is a possibility that an emergency may arise in their families.

Our county medical societies should publicize the fact that a call service is available to the public. In Iowa we have 40 counties where some sort of emergency service is maintained. Among the larger counties, Polk, Scott and Woodbury maintain this service. Many small counties have a system suited to their needs, not elaborate, yet adequate to provide medical service on an emergency basis day or night.

It would seem to us that the Iowa record is

fairly good, yet we urge that other counties take some sort of action along this line. We further urge that, having set up a system, it be publicized widely. We feel that counties already having the system might well advertise that fact again.

The medical societies implement many positive, constructive programs, but they need to "blow their own horn" a great deal more. It is ethical for the society to advertise what it has to offer, although individual physicians may not do so. The medical societies might well think of themselves as groups having a good health program for the people of their county, and they should emulate the merchants in publicizing their program to the fullest extent.

### AEROPLAST DRESSINGS

An experimental "spray on" plastic surgical dressing, developed by the United States Air Force for possible emergency use in case of atomic attack or other large-scale disasters, may prove effective for general use in treatment of many types of surgical wounds. The transparent plastic dressing, or "aeroplast," is applied directly to burned or injured areas of the body from an aerosol-type pressurized container, and provides instant protection. In tests conducted so far, gauze bandage dressings were unnecessary when the plastic was used. As a result of earlier tests, Air Force doctors believe aeroplast may be effective clinically as a general surgical dressing. It is planned to conduct further tests in hospitals throughout the United States to determine if the new dressing is suitable for standard usage.

Aeroplast has many possible advantages over gauze dressings, including timesaving in application, transparency to permit easy inspection of the wound and ease in removing or changing dressing. It can be applied to parts of the body poorly adapted to gauze dressings. Other important advantages possible, especially in the event of large-scale disasters, are: the dressing can be applied quickly and efficiently by a relatively untrained person, is less expensive than gauze, is portable and great quantities of the plastic can be stored indefinitely in a minimum of space. Ordinary gauze dressings require considerable storage space and must be resterilized periodically. These advantages have also led to the belief that aeroplast may be utilized in front line and other combat areas where quick protection is desired for wounds prior to patients being evacuated for hospital care.

A project of the Air Force's Research and Development Command, aeroplast was developed by Captain Daniel S. J. Choy, USAF Medical Corps, the Aero Medical Laboratory, Wright Air Development Center, Dayton, Ohio. Capt. Choy was named project officer in August 1951 when ARDC authorized the Aero Medical Laboratory to use its facilities to develop such a dressing. With the assistance of Protective Treatments, Inc., of Dayton, Ohio, a suitable modified vinyl plastic was developed under an Air Force research contract.



The plastic fully met the requirements set up by the Air Force, covering impermeability to bacteria, transparency, elasticity and flexibility, ease of application and stability in storage.

When aeroplast is applied to a wound, it is sprayed over the affected part to a thickness of approximately five thousandths of an inch. During healing, the wound can be inspected at a glance. If necessary, the plastic can be peeled off intact without injuring the wound and a new coating applied quickly. Aeroplast adheres only to dry, healthy skin areas. The plastic dressing will not halt an infection already present in a wound, but will prevent infection of a wound that is cleansed before its application.

### VOCATIONAL REHABILITATION

Whatever ways and means can be found to lighten the load on the taxpayer by removing handicapped persons from dependency rolls and restoring them to independence and economic self-sufficiency seems to be not only permissible under the Iowa Vocational Rehabilitation Act but also a duty that falls as a mandate upon the Board for Vocational Education. This Board, of which the Superintendent of Public Instruction is chairman and executive officer, administers the Iowa Vocational Rehabilitation Division.

#### REHABILITATION TRAINING CENTER

The official policy of the Board in recent years has been to place emphasis upon the vocational rehabilitation of severely handicapped persons, who all too often have been erroneously labeled totally and permanently handicapped. In order to extend to all the handicapped an equal opportunity for vocational rehabilitation, it became necessary for the Rehabilitation Division to develop special facilities geared to meet the needs of our more severely disabled in Iowa.

A recent project in this special area is the establishment of the Vocational Rehabilitation Training Center. It is located at 1027-29 Des Moines Street, just one block north of the State Capitol Building. The services of the Center are available to all severely handicapped persons in the state who are found to be eligible for assistance through the Rehabilitation Division.

The Center, which was made possible by the State Executive Council's grant of buildings and facilities to the Rehabilitation Division, has patterned its services after many of those offered by the outstanding rehabilitation centers of the country. Its primary objectives are to provide an intensive program of evaluation to detect latent abilities and potentialities that might be developed into occupational skills, to provide all types of personal adjustment training, including self-care activities and ambulation training, and to offer a full schedule of training in basic job skills both for exploratory purposes and in order to develop work tolerance.

It should be emphasized that while the restora-

tion activities of the Center are under qualified medical supervision, the Center is not intended to become in any sense a *medical* rehabilitation center, even though the Division cooperates with local recognized physicians in their particular fields, purchases services from local medical facilities and utilizes the medical services at the State University Hospitals. Neither is the Center intended to serve the purpose of a trade school. The best of relations have always been maintained with both private and public vocational facilities. With the Center's new addition of the former State Department of Health building, to be used as a dormitory, it will become uniquely equipped to serve cases on both an in-patient and out-patient basis. While the venture is entirely new, it is already serving the basic need of bridging the gap from bed to job for those who are so severely disabled that they might otherwise be branded totally and permanently disabled and abandoned as hopeless burdens upon families and society.

*Letter to the Editor:*

### A PLEA FOR LOCAL CARE OF CRIPPLED CHILDREN AND HANDICAPPED ADULTS

LEO J. MILTNER, M.D.

DAVENPORT

All indigent orthopedic cripples—adult and children—are eligible for state care at Iowa City, under the Perkins act and the Haskell-Klaus laws. These laws were originally designed to insure adequate clinical material for the Department of Orthopedic Surgery at the medical school. Iowa is one of the unique states in the United States with laws of this sort, which provide monies for *indigent orthopedic cases—only if they are taken care of at Iowa City*. No local orthopedic surgeon in Iowa, outside of the medical school, can be paid for his services with county or state funds. *The medical school, however, can no longer give adequate care for all indigent orthopedic cases. They do not have the space to do so.* A few orthopedic cases refuse to go to Iowa City—some through fear, others through ignorance, and certain others—asserting their rights—insist on care at or near home.

There is, therefore, a *surplus of orthopedic cases* which require attention. It is inevitable that this surplus of indigent cases will increase, rather than decrease, as time goes on—due to normal increase of population and more adequate screening of the state.

The state of Iowa is now well represented with competent pediatricians and orthopedic surgeons. Therefore, indigent orthopedic cases may receive adequate local care in most of the communities. Since the Haskell-Klaus and Perkins acts do not allow payment for home treatment of the surplus of the orthopedic cases, these laws should be changed. Under these existing circumstances, the local orthopedic surgeons must establish free

clinics for indigent crippled and handicapped patients in their own counties and, if approved, in surrounding counties. It is doubly important, at this particular time, that we enlighten ourselves on the problems facing us in this connection. If we, the orthopedic surgeons, do not provide adequately on the local level for this group of patients, the Federal Government or the state government will take their care away from us. Socialized care of this group will follow automatically wherever care, on the local level, is not provided. If we lose this surplus group to socialized agencies, we may lay the blame at our own door.

As a direct result of inadequate care of the crippled and handicapped, we have seen the gradual development of many overlapping federal and state controlled agencies interested in their care. At the present time, there are among others:

1. The state services for crippled children—enlarging upon the state plan for free clinics throughout the various counties.
2. The Iowa Society for Crippled Children and the Disabled.
3. The United Cerebral Palsy Association, Incorporated.
4. The Vocational Rehabilitation Service.
5. The Veterans Organizations.
6. The American Federation of Physically Handicapped.

All of the above named organizations are formed with good intent and genuine desire to help the crippled and handicapped. Public sympathy and the sympathy of the individual workers connected with these organizations runs high. Most people appointed to boards or agencies of this type are overwhelmed with pity for these patients as a group, and consequently use all their efforts to propagate the various agencies, even though their duties and functions may overlap one another. Overlapping of agencies is wasteful, both in terms of money and personnel.

My plan to prevent socialized agencies from taking control of surplus indigent orthopedic cases led to:

#### ORGANIZING OF THE SCOTT COUNTY FREE CLINIC FOR INDIGENT CRIPPLED CHILDREN AND HANDICAPPED ADULTS

In Scott County we developed a monthly clinic for all indigent handicapped, with unanimous approval of our Scott County Medical Society and with the cooperation of the Visiting Nurses and the Junior and Senior Board of Visiting Nurses. This clinic in no way interferes, or takes cases away from Iowa City and the medical school. *On the contrary, more orthopedic cases go to Iowa City from our county, as the result of the clinic.* The people and the doctors of our county know the organization and consequently more and better cases are obtained for referral to the medical school.

When we organized the Scott County clinic and carefully screened all indigent orthopedic cases,

we found quite a number in need of hospital care, who could not be taken care of at Iowa City because of a filled quota.

In our county we have an excellent Visiting Nurses organization and a Senior and Junior Board of Visiting Nurses, composed of women of the community. For a number of years members of our county medical society have donated their services for care of the poor in the following visiting nurses clinics:

1. Ear, nose and throat clinics.
2. Pediatric clinic.
3. Heart clinic.
4. Neuro-psychiatric clinic.
5. Tuberculosis clinic.
6. Orthopedic clinic.

With the exception of the orthopedic clinic, all of these free clinics are held in the visiting nurses cottage once or twice a month. The doctors enjoy giving this service. Likewise, the nurses and women's charitable organizations are very happy with the work. *Unfortunately, most of the people of the community know little of these services. If this information could be disseminated better to the general public, our position in public opinion might be elevated immeasurably.*

The time is here when we must use every good means to see that the public is properly informed of the doctors' cooperation in giving of their time for care of the poor.

#### ORGANIZATION

1. The clinic was organized within the County Visiting Nurses framework.

2. Full approval, in open meeting, was obtained from the local county medical association.

3. A private sponsor was obtained. *This was not difficult.*

4. Clinics are rotated yearly between the two local hospitals. The local hospitals provide space only, with opportunity for giving immediate care to out-patient cases with x-ray, blood work and a cast room—all available for quick diagnosis and treatment. Student nurses attend and receive valuable instruction.

5. *The visiting nurses provide a stock supply of used (donated) children's shoes of various sizes, various sizes of Dennis-Browne splints, material for plaster casts, records of all clinic cases and new records for new cases.*

6. Between clinics, inspection of cast cases is obtained, if necessary, at the office of the orthopedist *without charge.*

We wish to enumerate a few of the types of cases treated entirely and successfully as out-patients in our clinic:

- A. Congenital dislocations of hips.
- B. Congenital club feet.
- C. Flat feet.
- D. Bow legs—knock knees.
- E. Pigeon toe and muscle imbalance of legs.
- F. Supervision of polio cases.



- G. Supervision of cerebral palsy cases.
- H. Care (casts) of tubercular joints, arthritis, etc.
- I. Conservative management of other cases.

In Scott County, our orthopedic clinic has been very successful for a number of years. The patient attendance, per clinic, varies from 20 to 40. Most of the surgical cases go to Iowa City, and we believe that a larger number of surgical cases go to orthopedists in Iowa City, since our referrals have increased the total volume of orthopedic cases from our county.

During the past few months, we have screened all the cerebral palsy cases of our county. The work on these cases is still in the formative stage, and we hope that we may present more concrete information on these developments at a later date.

The cerebral palsy cases receive orthopedic and pediatric examinations: speech analysis, intelligence quotient determination and neurological consultations, if needed. We try, whenever possible, to maintain the cases in regular schools, but provide a play school for those refused admission by the school board. We never try to push children beyond the limits of their physical and mental abilities. All too frequently over-zealous attempts to improve a palsy case may increase the nervous instability and actually enlarge the handicap. We believe that these cases are better off at home, under the influence of understanding or trained parents, where they may receive the love, affection and sense of protection so vital to their progress in meeting the world. No substitute for these things can be provided in a public institution.

We believe that periods of special training by competent workers, in special institutions, are applicable in only a small percentage of the total number of cases of cerebral palsy. We object to the idea of a massive institution with a very large number of beds—an institution to which all nervous parents may transfer responsibility for their spastic children. The idea of a super institution for care of all spastics is socialistic and not founded on the basic principles of sound family life. The surplus of cases of cerebral palsy, therefore, must be cared for adequately at or near home. Hence the pressing need for clinics at home—clinics in private hands, on a local level, under the direction of doctors approved by the local county medical societies.

Rehabilitation of the handicapped is another great problem which the orthopedic surgeons must face squarely, otherwise social workers and federal agencies will dictate their care. We must remember that physical and mental rehabilitation is the direct responsibility of the physician. There are many who are receiving public aid whose economic distress comes directly from a physical disability. Provided with rehabilitation, many of them will be happy to leave the public aid columns and become self-supporting again. In an editorial in the *Journal of the American Medical Association*—Oct. 11, 1952, an approved program is

outlined in the report of the task force on the handicapped. This program might be followed in the local community.

### DR. EDWARD J. McCORMICK'S ADDRESS BEFORE THE FIFTH ANNUAL PUBLIC RELATIONS CONFERENCE

The AMA's Fifth Annual Public Relations Conference was held in Denver, Colo., at the Shirley-Savoy Hotel, Dec. 1, 1952. The PR conference was scheduled in conjunction with the interim session of the AMA which convened Tuesday, December 2. The theme of this fifth conference was mutual understanding, the key to better public relations.

The Conference was officially opened with a keynote address by Dr. Edward J. McCormick, Toledo, Ohio, President-elect of the AMA. Dr. McCormick displayed a series of slides depicting examples of poor doctor-patient relations. At the conclusion of their showing, he elaborated on the various problems which were indicated by the slides. Dr. McCormick commented that the various letters shown on the screen were samples of correspondence which had come to his attention since his election as President-elect of the AMA. It was emphasized that most of the complaints were unjustified, nevertheless they pointed up a real need for bringing better understanding to the people of this country in regard to medical practices. The President-elect requested the persons attending the Conference to assist in finding some means to bring home to the medical profession the need for improved public relations. He had reference to individual doctor-patient relations and the activity of a practitioner in creating a more favorable public opinion of the medical profession.

Continuing, the Doctor said that if we did not receive complaints such as were illustrated on the screen, socialized medicine would be a dead issue. He stressed the conviction that we must work for a long-range program which will survive any future attempts to regiment or shackle the medical profession, even though the drive for socialized medicine is halted or deterred. Since the conclusion of World War II, we have made great strides in public relations. However, the fact that we are still receiving complaints, even those which are not justified, indicates that we must continue to work until we have gained greater public support. Dr. McCormick cited some of the positive programs of organized medicine which have been developed in recent years to make medical care more accessible to the American people. He referred to the creation of the National Education Foundation, which has provided millions of dollars for medical education. **EMERGENCY CALL SYSTEMS:** These call systems have been increasing throughout the country. He stated that in 1948 there were 60 emergency night call systems in the country and in 1952 we now have 652 systems. He is of the opinion that this total should be doubled next year. The President-elect stated that he believes that every county medical society should set up some system of handling emergency calls at all times.

**EXPLAINING MEDICAL COSTS:** Continuing, Dr. McCormick referred to the work that is being done to explain to the American people the costs of medical care. He complimented the AMA Public Relations De-



partment for its excellent brochure on medical costs entitled *Your Money's Worth in Health*. He stated that over a million copies had been distributed.

**HEALTH INSURANCE EXPANSION:** Dr. McCormick also told of tremendous strides in the increase in members covered by voluntary health insurance and expressed the hope that enrollment in these voluntary plans would continue at even a more rapid rate. He is of the opinion that a great percentage of people have some type of health protection. He quoted figures showing that in 1948, 42 per cent of the population had some type of hospitalization insurance, while in 1951 the proportion had reached 60 per cent. Continuing, he said that in 1948, 28 per cent had some type of surgical coverage, as compared to 45 per cent in 1951.

**ITEMIZED BILLS:** Dr. McCormick is of the opinion that a great deal of misunderstanding concerning doctors' fees arises from the fact that physicians have not generally adopted the system of itemizing their bills. He recommends this as another step to improve doctor-patient relations. In order to encourage the discussion of fees, he asks the members of the profession to display the AMA plaque which invites the patient to discuss the charges with the physician. He cautioned the profession against deliberately increasing fees for service when an insurance carrier is to participate in the total cost. He labeled this a dishonest procedure, actually petty larceny, and stated that he does not believe it should be tolerated in the medical profession.

**GRIEVANCE COMMITTEES:** He recommended action by the Grievance Committee as a means to reprimand doctors who follow this practice. Speaking on the subject of grievance committees, he said that the AMA is encouraged by the fact that every state in this country has established some type of mediation or grievance committee. The doctor said that unless grievance committees have teeth to clean up bad spots in the medical profession, they will not have any effect. They must have power to police and censure their members. Continuing, he said the committee must not be a "white-washing" agent for doctors, but a group of physicians joined together to bring into line those men who find it necessary to violate the ethics of medicine.

In this keynote address the President-elect said that he hoped the medical profession throughout the country, as individuals, would assist the AMA in helping the American people to better understand that the AMA is not a monopoly but one of the most democratic organizations in this country.

**MEDICAL EDUCATION FUND:** He cited the example that many people believe the AMA is deliberately restricting the number of medical students accepted at medical schools in order to force a shortage of physicians. He said that this, of course, is untrue and that the AMA has nothing whatever to do with admitting medical students to the various medical institutions. To the contrary, the AMA has taken the lead by setting up the National Education Foundation which is to give financial assistance and to make it possible for more medical students to be trained. He said that the AMA will donate half a million dollars from its 1953 budget to support medical education through the National Medical Education Foundation. He does not believe there is a shortage of physicians but feels there should be a better distribution.

**PHYSICIAN SUPPLY AND PLACEMENT:** Dr. McCormick pointed out that we have more practicing physicians than any other large country in the world, in proportion to the population. He requested

the various constituent medical societies to assist in solving the problem of doctor distribution by offering an efficient placement service. He complimented the Kansas Medical Society for its excellent work in solving the physicians' placement problem. The President-elect suggested that state medical societies which are now lagging in public relations activities increase their public relations budget in order to enable them to carry out some of the programs mentioned above.

**MEDICAL-RADIO-PRESS ACTIVITY:** He recommended increasing medical-radio-press-activities and complimented the states for developing medical-radio-press Codes of Cooperation. He asked for greater liaison between the medical profession and other organizations. Accordingly, he requested individual physicians to take a more active part in civic affairs. In closing, Dr. McCormick said that the medical profession would stand or fall on public opinion and that we must meet all of our problems head-on and get rid of the men in the profession who do not conduct themselves in a manner which does the medical profession proud.

An additional highlight of this public relations conference was a talk by Dr. Otto Glesne, Fort Dodge, who spoke of the work of indoctrinating medical assistants, which has been going on in Iowa for the past five years. He referred to the meeting of the doctors' secretaries and nurses and to the use of various pieces of literature, particularly the AMA's pamphlet, *Winning Ways with Patients*. His remarks were favorably received.

## CLINICAL PATHOLOGIC CONFERENCE

(Continued from page 22)

ferred. Occasionally, however, one secondarily infected kidney may be so much destroyed and infected as to disturb the patient so much that nephrectomy should be carried out in spite of the presence of the infection in the opposite kidney. This must always be associated with medical therapy.

In recent years, of course, chemotherapy has tremendously changed the outlook in renal tuberculosis, as it has in all tuberculosis. Dr. Lattimer of New York, who has had a vast experience in the treatment of renal tuberculosis, feels that all three of the newer chemotherapeutic agents should be used simultaneously because there seems to be much less chance for the tubercle bacilli to develop resistance against these drugs if they are used together. These three drugs are para-aminosalicylic acid, streptomycin and the newer derivatives of isonicotinic acid which Dr. Dorasin discussed. Thus, in the management of a patient with renal tuberculosis, the following steps are in order:

- 1) Diagnosis and determination of the extent of the lesions; whether unilateral, bilateral or involving the bladder. Secondary infection, cystoscopy, typical pyelograms, bacteriological studies: all are important.
- 2) Rest and chemotherapy with all three drugs for a variable length of time, depending upon the individual situation.
- 3) Surgical therapy, if indicated.
- 4) Continuation of rest and chemotherapy.



## *General Manager's Page*

### RURAL HEALTH

One of the most—if not the most—important problems which the Iowa State Medical Society faces in 1953 is the production of better medical service for rural Iowa.

We have made a good start in establishing county health councils. Over 30 counties now have them, and they should double in number by 1954. The liaison established with the councils brings to the State Society a better overall knowledge of the county and its need for improved medical service. In turn, we may look to them for an organization of all health facilities, a better understanding of distribution of medical care and, last but not least, the minimum requirements for additional medical personnel. The County Medical Society must assume the leadership in supporting the activities of such an organization, especially in formulating plans for medical service in the areas where such service is most needed.

The problem of producing more general practitioners for Iowa has not been solved. The increase in enrollment in our state medical school, the inauguration of a preceptor system and the fact that the general practitioner's income is at a satisfactory level, are encouraging trends, but many counties still lack the medical leadership needed to establish a round-the-clock medical service for every citizen in the county. To illustrate, some counties have established emergency telephone service whereby a doctor is available to any citizen in the county, through cooperation with the telephone company. This is similar to the service established in most of the cities in Iowa. Information concerning this service is displayed in every doctor's reception room as well as in the county newspapers.

A similar service in every county in Iowa would do much to dispel the fears of our rural people and greatly improve their medical service.

*R. S. Bernard, M.D.*

*General Manager*

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. LONNIE A. COFFIN, Farmington

*President-Elect*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*Secretary*—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

*Treasurer*—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

---

## STATE PRESIDENTS' CONFERENCE

The Ninth Annual Conference of state presidents, presidents-elect and national committee chairmen of the Woman's Auxiliary was held November 6 and 7 in Chicago.

Your president, Mrs. Lonnie A. Coffin, and Mrs. Edward B. Hoeven, president-elect, attended.

There were 125 in attendance. Panel discussions by state presidents on the various activities of our national program were conducted. Iowa can justly be proud of her record in many of these phases, compared with other states.

Full reports of the Conference will be published in the next issue of the *Bulletin*. The *Bulletin* is of inestimable value to members, as it includes the Auxiliary program in its entirety.

The theme, "Our Goal—A Better World," was presented by several capable speakers.

Dr. Ernest B. Howard, assistant secretary of the A.M.A., told us about their organization and commended the women for their excellent work.

We were all impressed by the address of Mr. Arthur L. Conrad, president of Heritage Foundation, which concerned the subversion in text books. This attempt to capture the hearts, minds and souls of the present generation in order for the so-called intellectuals to revolutionize the world is an immediate threat to our nation. The positive action described by Mr. Conrad and the high commendation he gave the efforts the Auxiliary is making in the secondary schools should inspire all of us to place these books in the libraries of our cities and towns. These books are: *Compulsory Medical Care and The Welfare State*, by Melchior Palyi; *Revitalizing a Nation*, by Douglas McArthur, and *Key to Peace*, by Clarence Manion.

The last book, written by one of America's most noted professors of constitutional law, defines Americanism and explains why it is the best hope for "peace on earth."

Mrs. Oscar Ahlgren, president, General Federation of Women's Clubs, in her subject "The Time Has Come," told of the power and strength of women. The American home once made America great and it should again. Religion should be a spot in the heart that needs watering every week. We must hold fast to the philosophy of faith:

faith in ourselves, faith in our fellowmen, faith in our country and faith in God.

MRS. LONNIE A. COFFIN, *President*

---

## REGIONAL LEGISLATIVE CONFERENCE OF A.M.A.

Your president, Mrs. Lonnie A. Coffin, attended a regional conference on legislation, presented by the American Medical Association in Omaha, Neb., Nov. 9, 1952. State officers from Missouri, Kansas, North Dakota, South Dakota, Nebraska and Iowa, were present.

Frank E. Wilson, M.D., director from the Washington office, gave firsthand information regarding the office, its purposes and accomplishments. This office is a two way street between Congress and us.

File your copies from the Capitol Clinic and the *Bulletin* for future reference, as they contain valuable information.

A brief summary of congressional activity on bills before the last Congress, trends and expected legislative proposals for the next Congress, were given and discussed.

Remember to thank your Congressman when he supports legislation that has your approval.

Under the direction of the Iowa State Medical Society, the Woman's Auxiliary will do its part.

---

## COUNTY AUXILIARY ACTIVITIES

The Black Hawk County Auxiliary met at the home of Mrs. Clark N. Cooper, Cedar Falls, on November 18. The program included demonstrations of fruit arrangements by Mrs. Rudolph F. Nielsen and Christmas decoration ideas by Mrs. George Hearst.

The Auxiliary-sponsored sale of items made by the handicapped, held at the James Black Dry Goods Store, brought in \$686.92, compared to \$425.00 last year. Very few articles had to be returned.

Another activity of the Auxiliary was a talk by Mrs. George Hearst to the Future Nurses Club of the Cedar Falls High School. She spoke about plans of the Auxiliary for the club and answered informal questions from the group.

Black Hawk County Auxiliary officers for 1953 will be: Mrs. Russell S. Gerard, president; Mrs. Rudolph F. Nielsen, president-elect; Mrs. George



Hearst, first vice president; Mrs. Craig Ellyson, second vice president; Mrs. Herbert Shulman, corresponding secretary; Mrs. William Drier, treasurer, and Mrs. Morris G. Beddoes, recording secretary.

MRS. JOHN BICKLEY

Members of the Boone County Medical Auxiliary were hostesses at their annual autumn tea given at the home of Mrs. Thomas E. Kane, Thursday afternoon, Oct. 23, 1952. Invitations were extended to all senior girls of public and parochial schools in Boone County who were interested in nurses' training. The guests were invited to the Kane home from 3:00 to 5:00, and a large number attended from schools in Ogden, Madrid, Napier and Boone.

The girls were given a firsthand picture of the life of a student nurse by three student nurses from Iowa hospital schools.

This is the third such tea that the Boone County Auxiliary has given. The members feel that they are well repaid for their efforts by the number of these girls who enter nurses' training.

MRS. JOHN C. HERMAN

Clinton County Medical Society members entertained their wives at the annual Thanksgiving Feast at the Clinton Country Club on Wednesday, November 19, with a social hour beginning at 6:30 p.m.

A delightful 10 course dinner was planned by Dr. Kurt Jaenicke, chairman. The four huge turkeys gracing the ends of the H-shaped table were carved by Drs. Frank O. Kershner, Henry J. Heusinkveld, Milton E. Barrent and Ross C. King.

Dr. Edward T. Carey, Clinton County president, presented Dr. Wilbur W. Walliker with a 50 year Iowa State Medical Society pin in recognition of his fiftieth anniversary as a practicing physician. Dr. Robert H. Foss, vice president, presented Dr. Walliker with a solid gold wrist watch, a gift of the Clinton County group.

MRS. ROSS C. KING

#### MEDICAL SOCIETY AUXILIARY SPONSORS HOSPITAL BENEFIT

Nearly 400 persons thronged the Clinton Country Club Saturday evening for the first annual Charity Ball, sponsored by the Auxiliary to the Clinton County Medical Society as a fund-raising project for St. Joseph Mercy hospital and Jane Lamb Memorial hospital.

A gala setting of frosty silver and white, contrasting with the deep green of laurel leaves, greeted the nearly 400 persons who attended.

Mrs. G. M. Ellison and Mrs. E. T. Carey, Jr. were executive co-chairmen of the successful affair.

The Dallas-Guthrie Auxiliary enjoyed dinner with the doctors November 20 at the Presbyterian

Church in Panora. Mr. Ned Disque of Iowa State College, gave an interesting talk on public relations. The following officers were elected for 1953: Mrs. W. C. Wildberger, president; Mrs. Charles A. Nicoll, president-elect; Mrs. Allen M. Cochran, vice president; Mrs. William Seidler, Jr., 2nd vice president; Mrs. Donald W. Todd, secretary, and Mrs. Charles A. Nicoll, treasurer.

MRS. DONALD W. TODD

Twenty-one members of the Dubuque County Medical Society met for dinner at the Bunker Hill Golf Club on November 11. Mrs. Margaret Kahl, case committee chairman of the Dubuque County Chapter of the Iowa Society for the Crippled and Handicapped, discussed activities related to her work.

Final details were completed for the sale of articles made by the crippled and handicapped. The Auxiliary sponsored the sale at Roshek's Mezzanine on November 19, 20 and 21.

The December 9 meeting will be a Christmas party. Mrs. Donald Konzett is chairman, Mrs. Walter Cary and Mrs. Robert McNamara are to be co-hostesses.

MRS. ROBERT MCNAMARA

The Wapello County Medical Auxiliary met with Mrs. William N. Whitehouse December 2 at 7:45 p.m. Assisting the hostess were Mrs. Richard Hastings, Mrs. Arthur L. Blome and Mrs. Harry W. Sellers. The treasurer reported a profit of \$100.30 from the Thanksgiving party. Mrs. Edward B. Hoeven gave an account of the Denver medical auxiliary meeting. The following officers were elected for 1953: Mrs. Ray Phelps, president; Mrs. Kenneth Lister, president-elect; Mrs. Laurence Nelson, vice president; Mrs. Edward Elinger, secretary, and Mrs. DeVoe Bovenmyer, treasurer.

MRS. WALTER E. ANTHONY

#### FIRST DISTRICT MEETING

A meeting of the First District was held at Charles City, November 6, at 4:00 p.m. at Club Iowa. It was followed by a 6:30 dinner with the doctors. Mrs. Clayton Clark, district councilor of Nashua, presided. Mrs. Lester R. Hegg, first vice-president and chairman of organization, emphasized the importance of Auxiliary membership and its many advantages. Mrs. Eleanor Carris, of the Des Moines Social Welfare Department, gave an account of varied experiences as a case worker. Mrs. B. M. Black, Rochester, Minn., discussed her work as state chairman of *Today's Health* in the Minnesota Auxiliary.

Twenty ladies attended the meeting and seven counties were represented. Each member felt that the gathering was most worthwhile and that a fall meeting should be held.

MRS. LESTER R. HEGG

First Vice President and Chairman of  
Organization

## A NEW CHAIRMAN

Mrs. Harold Spilman, 1231 Castle Street, Ottumwa, has been appointed chairman of the American Medical Education Foundation Committee for the Iowa Auxiliary.

## OUR GOAL—1,000 MEMBERS IN 1952-53

Visions of possible accomplishments beset us all at the close of the old year as well as new visions of how much will be accomplished and maintained in the approaching year. We all visualize the membership map of Iowa's medical auxiliary, with shadings of green for organized counties, checks for members-at-large and a few red dots for counties with no members at all. In the fleeting moments of 1952, we must take an inventory of our service to the dignified profession of the A.M.A. and assist them in bringing the message of health to all other organizations in rural Iowa.

The most valuable asset of the Auxiliary is the individual member. She is the basis of our existence on national, state and county level. Often this member is the only Auxiliary member in her town or community. She may feel that her ability is very limited, but she has only to multiply her membership by 60,187 to realize the value of combined effort. The duty of securing new members rests with the individual member. We know that personal contact with a prospective member lends itself to friendliness and mutual interest.

Membership may be increased in other ways, too: (1) Check the roster of your County Medical Society to determine whether every doctor's wife is a member. (2) Participate in the organization of new County Auxiliaries. (3) Promote district meetings as a means of increasing membership.

The price of progress is study, hard work and cooperation among Auxiliaries. Democracy and individual freedom are the product of organization. The \$3.00 membership dues should be mailed to the state treasurer, Mrs. Dwight C. Wirtz, 449 56th Street, Des Moines, by March 1. Dues for 1952-53 received between July 1, 1952 and June 30, 1953 are considered current dues and determine current membership.

Two new County Auxiliaries have been organized. With enthusiasm and determination, our membership should soar far beyond any anticipated number we aim to obtain. Every eligible physician's wife should be a member.

MRS. LESTER R. HEGG

*First Vice President and Chairman of Organization*

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

## EVERYDAY HEALTH PROBLEMS

January 1 ..... Liver Disease

January 8 ..... Old Age  
January 22 ..... Drug Addiction  
January 29 ..... Allergies

WSUI—Tuesday at 11:45

## GUARDIANS OF YOUR HEALTH

January 6 ..... The Public Health Laboratory  
January 13 ..... Guarding the Food Front  
January 20 ..... Trained Public Health Workers  
January 27 .... Controlling Contagious Diseases

## TELEVISION SCHEDULE

WOI-TV—at 9:00 p.m.

January 14 ..... Stuttering  
January 28 ..... To be announced

## MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

### LEGISLATIVE MEETING

Nov. 9, 1952

The Washington office of the American Medical Association held a legislative conference in Omaha, Neb., Sunday, Nov. 9, 1952. The purpose of the meeting was to discuss the legislative set-up for the coming session of Congress. Contact men for the different Congressmen were submitted to the director, Dr. F. E. Wilson. Dr. Wilson talked on possible legislation which will be introduced.

Those present at this meeting included Drs. B. T. Whitaker, R. N. Larimer, R. D. Bernard, F. C. Coleman, John D. Conner, O. N. Glesne, Mr. I. W. Myers and Miss McCord.

### NORTH CENTRAL CONFERENCE

Nov. 16, 1952

The North Central Conference was held in Minneapolis, Minn. Nov. 16, 1952. The following persons were present from Iowa: Drs. B. T. Whitaker, R. N. Larimer, R. D. Bernard, F. C. Coleman, T. D. Throckmorton, John D. Conner, O. D. Wolfe, D. C. Conzett, G. V. Caughlan, Mr. I. W. Myers, Mr. Don Taylor and Miss Mary McCord. The program consisted of five panel discussions. Mr. I. W. Myers, legal counsel, represented Iowa on the first panel, listed as "Fee Splitting, Yes or No." Dr. John D. Conner headed the second panel, "The Problem of Osteopathy." Dr. Otis D. Wolfe was our representative on the third panel, "Nursing and the Nursing Problem;" Dr. Donald C. Conzett, on "Selective Service and the Drafting of Physicians," and Dr. G. V. Caughlan on the panel, "Veterans Medical Care."

The North Central Conference is composed of representatives from Wisconsin, Minnesota, North and South Dakota, Nebraska and Iowa. All states were represented on the five panels and the problems were well discussed.



## COMMITTEE ON MATERNAL AND CHILD HEALTH

Nov. 23, 1952

The Committee on Maternal and Child Health met in the office Sunday morning, Nov. 23, 1952 with the following Committee members present: Drs. C. P. Phillips, Muscatine; H. A. Weis, Davenport; L. F. Hill, Des Moines; R. H. McBride, Sioux City; Maryelda Rockwell, Clinton, and C. A. Hanson, Waterloo. In addition, Dr. Madelene Donnelly of the State Department of Health, Dr. B. T. Whitaker, President, and Dr. R. D. Bernard were in attendance. The meeting was called to order at 10:30. Dr. Donnelly reviewed the findings in the survey of maternal deaths. She presented charts which were most informative. The Committee was greatly impressed by the findings and most enthusiastic about the survey.

Mr. Lewis of the Iowa Children's Home Society and Mr. Wilbur and Miss Meyer of the State Department of Social Welfare were invited to the meeting to speak on adoption laws in Iowa. The views of the agency people were not in harmony with those of the doctors present and it was felt that further conferences should be held to bring about a closer meeting of minds.

Dr. Phillips asked if he might request the Executive Council for authority to investigate the school health problem. He would like to have his committee work out a better program. He was assured that this was the proper approach. The meeting adjourned at 1:30 p.m.

## MEETING OF THE SUB-COMMITTEE ON PUBLIC INFORMATION

Nov. 23, 1952

The Sub-Committee on Public Information met in the new office Sunday afternoon, Nov. 23, 1952 with the following persons present: Drs. O. N. Glesne, Fort Dodge; C. W. Seibert, Waterloo; W. M. Sproul, Des Moines; B. T. Whitaker, Boone; E. H. Files, Cedar Rapids; R. D. Bernard and Mr. Don Taylor of Des Moines.

The meeting was called to order at 2:30 by Dr. Glesne. He explained he had held a meeting in Ames about ten days previously to discuss press releases. He said it had been decided the State Society would try to undertake such a project. The Committee discussed how to get information of its work to the members of the State Society. It seemed to be the consensus that reports of important committees should be read at the House of Delegates meeting instead of being accepted as printed in the *Handbook*. It was also decided to ask the president of each county medical society to have a business meeting at which time Blue Cross-Blue Shield items, Legislative Committee procedures, other committee activities and many other State Society items might be explained. Those present felt each county medical society might well have an indoctrination meeting to explain to their new doctors how things are done. They should be told of the various official and voluntary agencies upon which they can call; they should be given a copy of the prevailing fee schedule; told how Blue Cross and Blue Shield operate; how to commit patients to the University Hospitals, and enlightened on many other economic problems.

The Committee also felt that the State Medical Society might well hold an indoctrination meeting for all new doctors in the state. This should be held at the office building, probably sometime in the fall.

The committee recommended that each county medical society establish an average fee schedule. Dr. Files left a copy prepared by Linn County, which he felt helped control exorbitant fees. The meeting adjourned at 4:30 p.m.

## MEETING OF THE INTERPROFESSIONAL ASSOCIATION PROGRAM COMMITTEE

Nov. 26, 1952

The Program Committee of the Iowa Interprofessional Association met in the office Wednesday morning, Nov. 26, 1952. Present were Mr. Dallas Bruner of the Iowa Pharmaceutical Association; Miss Jessie Norelius of the Iowa State Nurses Association; Dr. J. P. Pinkerton and Dr. Harry I. Wilson of the Iowa State Dental Society; Mrs. Anne Lackner of the Iowa Hospital Association; Dr. R. D. Bernard, Mr. Don Taylor and Mary McCord of the Iowa State Medical Society. Because of the blizzard, F. B. Young of the Iowa State Veterinary Medical Association was unable to be present.

The program for the coming interprofessional meetings was discussed and an outline made for the various speakers. The different associations then presented the talk which would be given by their representative at the five centers. The meeting adjourned about 12:30.

## COMMITTEE ON INDUSTRIAL HEALTH

Nov. 26, 1952

The meeting of the Committee on Industrial Health, scheduled for Wednesday afternoon, Nov. 26, 1952, was canceled because of blizzard conditions. Dr. H. A. Amesbury, Clinton, was the only one to reach Des Moines, having left Clinton before cancellation.

## MEETING OF THE AMERICAN MEDICAL ASSOCIATION

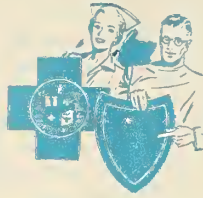
Dec. 1-5, 1952

The following persons attended the American Medical Association meeting in Denver December 1 through 5: Drs. B. T. Whitaker, Boone; R. N. Larimer, Sioux City; L. A. Coffin, Farmington; R. D. Bernard, Des Moines; G. V. Caughlan, Council Bluffs; George Braunlich, Davenport; J. E. McFarland, Ames; Gordon F. Harkness, Davenport; D. C. Conzett, Dubuque; O. N. Glesne, Fort Dodge; Fred Sternagel, West Des Moines, and Mr. Don Taylor and Miss Mary McCord. All were present at the Public Relations Conference held Monday, December 1 at the Shirley-Savoy Hotel in Denver. A full report of that meeting will be found elsewhere in this issue.

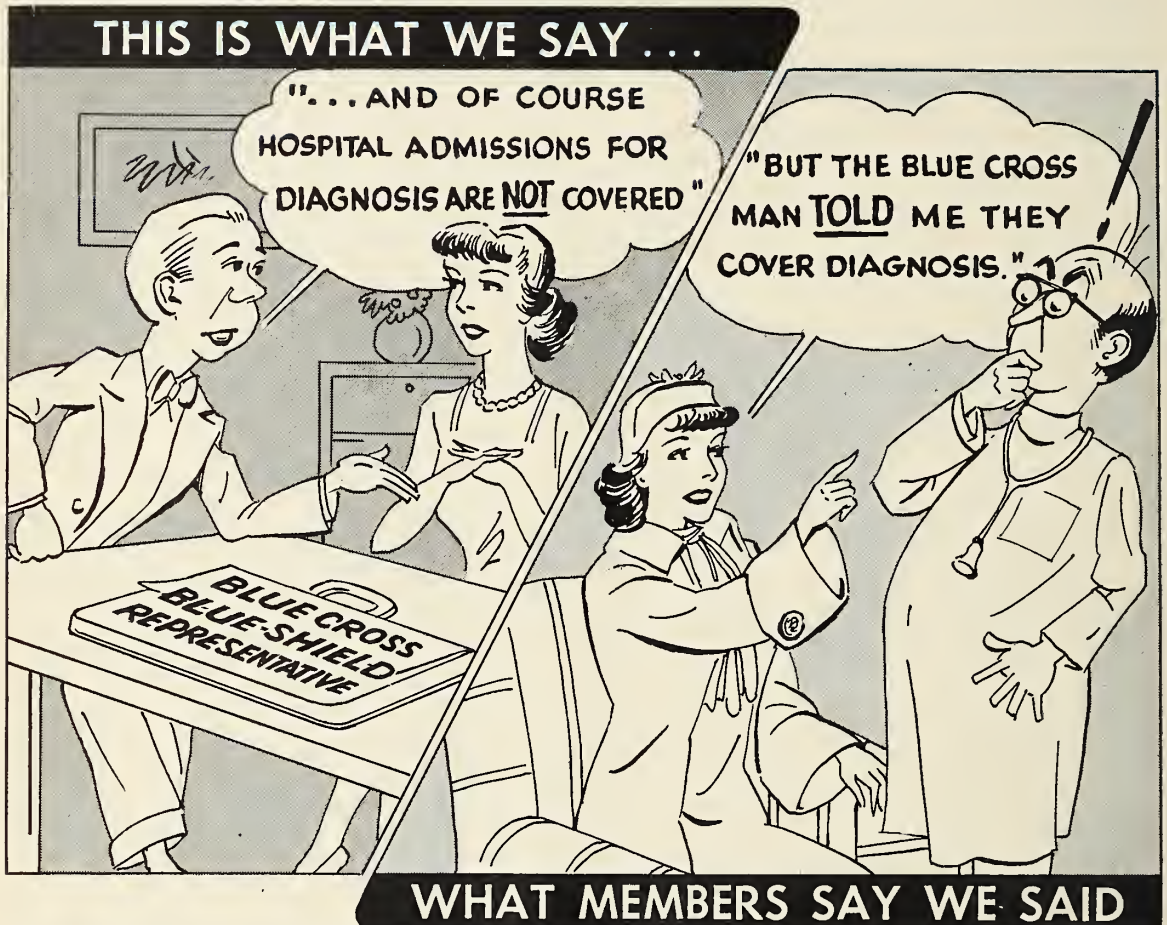
The House of Delegates of the American Medical Association met on Tuesday, December 2, from 10:00 a.m. until 4:00 p.m. Reference Committee meetings were held all day Wednesday, December 3. The Iowa delegation divided itself so that all meetings were covered. The final meeting of the House was held on Thursday, December 4, starting at 9:00 a.m. and running until 4:30 p.m.

Since the highlights of that meeting were mailed to each member of the Iowa State Medical Society, only the list of those in attendance will be carried in this issue of the *JOURNAL*. The *Journal of the American Medical Association* will carry the full report of the meetings.

# BLUE CROSS



# BLUE SHIELD



The above cartoon is quite illustrative of the fact that there is a human element in the selling and purchasing of Blue Cross-Blue Shield. Many times, people, for reasons of their own, try to convince a physician that certain benefits are covered by the contract even though they know in their own minds that it is contrary to the true facts. This problem is discussed primarily to let you of the profession know that Blue Cross-Blue Shield is making every effort to encourage the best in selling of Blue Cross-Blue Shield.

## SIoux CITY BLUE CROSS-BLUE SHIELD SALES FORCE COMES TO DES MOINES

A joint meeting of the Sioux City Blue Cross-Blue Shield sales force and officers of Iowa Medical Service (Blue Shield) was held in Des Moines November 21 and 22. The conference was scheduled for the purpose of acquainting the sales force with the physical plant and operations of Blue Shield. The Sioux City plan, which is comprised of 26 counties in western Iowa, does the selling,

billing and collecting for Blue Shield. It has been felt for some time that these men should be brought to Des Moines for the purpose of a more complete indoctrination in the workings and problems in Blue Shield.

The conference convened with a dinner Friday evening, November 21, at the Des Moines Club, after which guest speakers appeared. Dr. Martin I. Olsen, president of Iowa Medical Service (Blue Shield) and Dr. R. D. Bernard, general manager,

(Continued on page 42)



---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## POSTGRADUATE COURSE HOTEL SAVERY, DES MOINES THURSDAY, JAN. 22, 1953

### Program

- 8:00 a.m. Registration
- 9:00 a.m. OFFICE GYNECOLOGY, by Walter J. Reich, M.D., assistant professor of gynecology, Chicago Medical School, Chicago, Illinois
- 10:30 a.m. COMMON PEDIATRIC BEHAVIOR PROBLEMS, by Mark L. Floyd, M.D., associate professor of pediatrics, University of Iowa, Iowa City
- 12:15 p.m. Luncheon and address  
THE RELATIONSHIP OF VETERINARY MEDICINE TO MAN, by Dr. I. A. Merchant, College of Veterinary Medicine, Iowa State College, Ames
- 2:00 p.m. COMMON GYNECOLOGICAL SURGICAL PROCEDURES, by Walter J. Reich, M.D., Chicago, Ill.
- 3:30 p.m. INGESTION OF POISONS, by Mark L. Floyd, M.D., Iowa City

So often we of the medical profession have been accused of being smug—a characteristic which denotes an icy individual who is void of all emotions and frequently regarded by others as cold, calculating, selfish and egotistical.

In earlier days, perhaps, the description of smugness was better applied. You well remember how the doctor dressed: top hat, cutaway coat, striped trousers, overlapped tie and highly polished shoes. Often he had a driver and a beautiful team of horses to pull his carriage. His arrival at the home of the sick was likened to the red carpet reception for the arrival of passengers on the 20th Century at Grand Central Station. Remember the fears of the mother that the house was not in order; her efforts to have the sickbed made up with her best linen. Such preparations and fears inhibited the true response of the patient. Many things pertinent to a proper diagnosis were held back by the patient for fear the doctor would not care to hear about them.

Are we doctors of today merely differing in dress, while showing the same starched charac-

teristics? Do we approach our patient with a dignity and demeanor that immediately sets up a barrier? Are we assuming that we are above the patient's level—that he is dwarfed by our presence, or do we make him feel as if he were the most important person and that we are his servant—anxious and willing to help him in any way?

Have we made the patient feel free to tell us all about his symptoms, including the intimate details about family and friends that may have some bearing on his illness? In short, have we made him confident of our trust.

Many patients have complained that in consultation with their doctor they have been hurried to the extent that they forgot to relate some cardinal symptoms that might have been important in making a diagnosis. Though we may be stressed for time, we should ever strive to achieve a calm, unhurried composure.

Our social standards indirectly affect the confidence of our patients. Consequently, we should live discreetly, avoid undue publicity and shun vulgar display of apparent wealth.

In our scientific prowess, we blind ourselves to the appreciation of our patients as human beings. They too have desires for success, happiness, security, friendship and social grace. We have not earned our distinctions by ourselves, for without our patients' support we would lack fertile soil for growth of our own achievements.

No greater responsibility has any man than one with lives entrusted to his care. We should cherish that trust with pride, tempered with humility, and assume a composure that radiates calmness, warmth and friendliness, rather than cold aloofness.

As a parallel, we should exhibit the same type of behavior toward our fellow practitioners. No doubt, some of us may have the benefit of a more lucrative practice or may have higher education and greater skill. Nevertheless, we have a common purpose in bettering humanity, and were it not for the support of our fellow practitioners in a united effort, regardless of merit, we should fail miserably as individuals in achieving success. Let us not be critical of each other in a harmful way. Rather, let us be critical in a manner that will be mutually stimulating.

# THE JOURNAL BOOK SHELF

## BOOKS RECEIVED

**ADVANCES IN INTERNAL MEDICINE**, edited by *William Dock, M.D.*, Long Island College of Medicine, Brooklyn; *I. Snapper, M.D.*, The Mount Sinai Hospital, New York; Volume V, 1952. The Year Book Publishers, Inc. Price \$10.50.

**DISEASES OF METABOLISM**, Detailed Methods of Diagnosis and Treatment, edited by *Garfield G. Duncan, M.D.*, Director of Medical Division, Pennsylvania Hospital; Clinical Professor of Medicine, Jefferson Medical College, Philadelphia; with contributions by *Walter Bauer, Hugh R. Butt, Abraham Cantarow, Garfield G. Duncan, Frank Alexander Evans, Ferdinand Fetter, Joseph M. Hayman, Jr., Ancel Keys, Friedrich Klemperer, Rachmiel Levine, Edward H. Mason, Max Miller, John P. Peters, J. E. Rall, Ruloh W. Rawson, Samuel Soskin, Tom D. Spies, Cecil Watson, Abraham White, Priscilla White*; Third Edition, illustrated. W. B. Saunders Co., Philadelphia, 1952. Price \$15.00.

**ELECTROCARDIOGRAPHY IN PRACTICE**, by *Ashton Graybiel, M.D.*, Captain, Medical Corps, United States Navy, Director of Research, United States Naval School of Aviation Medicine, Pensacola, Fla.; *Paul D. White, M.D.*, Executive Director, National Advisory Heart Council; Consultant in Medicine, Massachusetts General Hospital; *Louis Wheeler, A.M.*, Executive Secretary, the Cardiac Laboratory, Massachusetts General Hospital; *Conger Williams, M.D.*, Instructor in Medicine, Harvard Medical School; Associate Physician, Massachusetts General Hospital; Third Edition. W. B. Saunders Co., Philadelphia, 1952. Price \$10.00.

**MONOGRAPHS IN MEDICINE**, Series 1, by *William B. Bean, M.D.*, Professor and Head of the Department of Medicine, State University of Iowa. Associate Editors: *Morton Hamburger, M.D.*, Associate Professor of Medicine, University of Cincinnati School of Medicine; *John A. Leutscher, Jr., M.D.*, Associate Professor of Medicine, Stanford University School of Medicine, and *Stewart Wolf, M.D.*, Professor and Head of the Department of Medicine, University of Oklahoma School of Medicine. The Williams and Wilkins Co., Baltimore, 1952. Price \$12.00.

**NUTRITION AND DIET IN HEALTH AND DISEASE**, by *James S. McLester, M.D.*, Professor of Medicine, Emeritus, University of Alabama; *William J. Darby, M.D.*, Ph.D., Professor of Biochemistry and Director of the Division of Nutrition, Vanderbilt University. Sixth Edition. W. B. Saunders and Co., Philadelphia, 1952. Price \$10.00.

**OFFICE PSYCHIATRY**, The Management of the Emotionally and Mentally Disturbed Patient, by *Louis G. Moench, M.D.*, Assistant Clinical Professor of Medicine and of Psychiatry, University of Utah School of Medicine. The Year Book Publishers, Inc., Chicago, 1952. Price \$6.00.

**OPHTHALMIC PATHOLOGY**, An Atlas and Textbook, by *Jonas S. Friedenwald*; *Helenor Campbell Wilder, A. Edward Maumenee, T. E. Sanders, John E. L. Keyes, Michael J. Hogan, W. C. and Ella U. Owens*, with the editorial assistance of *Helen Knight Steward*. Published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. W. B. Saunders Co., Philadelphia, 1952. Price \$18.00.

**PRACTICAL DERMATOLOGY** for Medical Students and General Practitioners, by *George M. Lewis, M.D.*, F.A.C.P., Professor of Clinical Medicine (Dermatology), Cornell University Medical College; Attending Dermatologist, The New York Hospital; Secretary, the American Board of Dermatology and Syphilology. W. B. Saunders Co., 1952. Price \$7.50.

**STANDARD VALUES IN BLOOD**, Being the First Fascicle of a Handbook of Biological Data, edited by *Errett C. Albritton, A.B., M.D.*, Fry Professor of Physiology, The George Washington University, prepared under the direction of the Committee on the Handbook of Biological Data, American Institute of Biological Sciences. The National Research Council. W. B. Saunders Co., Philadelphia, 1952. Price \$4.50.

**YEAR BOOK OF GENERAL SURGERY**, (June, 1951-May, 1952), edited by *Evarts A. Graham, A.B., M.D.*; Emeritus Professor of Surgery, Washington University School of Medicine; formerly Surgeon-in-Chief of the Barnes Hos-

pital and of the Children's Hospital, St. Louis. With a Section on Anesthesia edited by *Stuart C. Cullen, M.D.*; Professor of Surgery and Chairman of Division of Anesthesiology, State University of Iowa College of Medicine and Hospitals. The Year Book Publishers, Inc., Chicago, 1952. Price \$6.00.

**THE 1952 YEAR BOOK OF PEDIATRICS** (June, 1951-May, 1952), edited by *Sydney S. Gellis, M.D.*, Assistant Professor of Pediatrics, Harvard Medical School; Senior Physician, Children's Medical Center, Boston; Pediatrician-in-Chief, Beth Israel Hospital, Boston; *Isaac A. Abt, M.D.*, Editor Emeritus. The Year Book Publishers, Inc., Chicago, 1952. Price \$5.50.

## BOOK REVIEWS

**CULDOSCOPY**, by *Albert Decker, M.D.* (W. B. Saunders Co., Philadelphia, \$3.50).

Decker's Culdoscopy is a timely monograph, written about a subject which at present is gaining both favor and disfavor among the various gynecological clinics throughout the country. The author is probably the man most fit to present this subject to the medical profession, as he is responsible for modern methods and acceptance of the procedure. The monograph is complete and excellently prepared. Particularly intriguing is the chapter on history.

The monograph adequately describes the method of viewing the intra-abdominal, gynecological organs through puncture of the posterior colpos. In addition to describing the methods of use, Dr. Decker also discusses many of the indications, contraindications and complications of its use. The method is suggested in the management of ectopic pregnancy and sterility and such other gynecological conditions as endometriosis. The subject is one of conjecture. It is certainly one of the more recent adjuncts in diagnosis and treatment of gynecological diseases. This book will be widely read and will be an aid to those who will finally determine the actual usefulness of the procedure. Anyone interested in gynecology might read this book and sit among the judges.—*M. S. Mark, M.D.*

**GYNCOLOGIC AND OBSTETRIC PATHOLOGY**, by *Emil Novak*. (W. B. Saunders Co., Philadelphia, \$10.00).

The previous edition of this work is well known to pathologists and gynecologists. It is an essential book in the library of any physician doing obstetrics and gynecology.

The new edition differs little from those of previous years. However, more attention is devoted to the normal histology of the postmenopausal female, including an excellent discussion of altered physiology and endometrial changes.

The chapter on carcinoma of the cervix stresses the methods employed to arrive at an early detection of this condition.

This book is exceptionally well organized, and the various conditions are discussed in a manner which is interesting to the reader, yet gives him complete information on the subject.—*H. K. Shiffler, M.D.*



---

# STATE DEPARTMENT OF HEALTH

*Walter Diering*

---

## RODENT CONTROL

The State Department of Health has been receiving numerous requests and information concerning rat infestation problems. Therefore, we present some rat facts that will prove of particular interest in an agricultural section such as Iowa where the food factor is a large one.

A health and economic problem (two aspects that exist in rat infestations) can often be licked by a concerted community effort.

A small community in central Iowa (pop. approx. 1,100) has made progress along this line. By means of community effort and with the assistance of the State Department of Health, they feel that they can reduce the town's rat population until it is negligible. As a result of a survey from the State Department of Health and a member of the Public Health Service, the community got a picture of the degree of infestation throughout the town: the residential areas, the grain elevators and the city dump. The town's citizens now feel that voluntary cooperation is the key to lasting success. The program includes (1) using poison baits such as red squill and warfarin (in that order), (2) eliminating rat harborage, (3) cutting off food supplies and (4) improving the control and disposal of garbage. The citizens have found through their investigations that rats are thriving most where food and shelter are the easiest to obtain. Many other towns are in the same position because this year's bumper grain crop and the lack of storage space means a convenient food supply for rats. This is an example of what might be done in a united community health project of this nature.

Diseases spread by rats are:

Typhus fever	Trichinosis
Bubonic plague	Food poisoning
Infectious jaundice	Rabies
Rat bite fever	Tularemia
Dysentery	

The Federal Government is also urging communities to declare an aggressive war against rats. The rural rodent, states the Department of Agriculture, is eating enough grain to create a serious food production problem. The agency estimates that rats alone eat about 250 million bushels of grain annually. That is nearly 10 per cent of the quantity

farmers feed annually to produce the nation's supply of pork, beef, poultry and eggs. It is reported that rats pollute about 20 times as much food as they eat.

The female rat produces offspring at the age of 3 months. The average litter ranges from 5 to 9 and it is estimated that a pair of healthy, well fed, well protected rats living under the most ideal conditions could produce 1400 rats in a single year. In many communities there is one rat for every person—others have as many as 10 rats per person.

---

## INSECTICIDE VAPORIZERS

The use of devices to vaporize insecticides, in the control of flying insects, has received considerable commercial promotion recently. Since indiscriminate use will chronically expose people to insecticide vapors, concern about the degree of health hazard accompanying their use is being registered.

In 1951, the interdepartmental committee on pest control, consisting of representatives of interested and responsible Federal agencies, issued a statement based on available knowledge relative to the conditions necessary for reasonably safe operation of the vaporizers. After a review of additional information, the committee has issued a revised statement, which is reproduced below:

### INTERDEPARTMENTAL COMMITTEE ON PEST CONTROL

Depts. of Agriculture—Interior—Army—Navy—  
Airforce and Federal Security Agency

### A REVISED STATEMENT ON THE HEALTH HAZARDS OF INSECTICIDE VAPORIZERS AS USED FOR THE CONTROL OF FLYING INSECTS

(This release supersedes that of Sept. 21, 1951)

The Interdepartmental Committee on Pest Control, in consideration of additional data, has revised its release of Sept. 21, 1951, regarding the use of lindane, DDT or mixtures of the two in insecticide vaporizers to read as follows:

1. The insecticide should be continuously released over a 24 hour period at a rate not to exceed 1 Gm. per 15,000 cubic feet per 24 hours. The dispensing rate per hour should not vary more than

25 per cent. Devices should be so constructed that excess output will be impossible.

2. Installation should be made only on commercial or industrial premises, or similar locations where human exposure will be on a working day basis; not continuous.

3. The devices should not be used in homes or sleeping quarters.

4. Unless it can be demonstrated that contamination does not occur, the committee would discourage the use of insecticide vaporizers in rooms or areas where food is served, processed or stored.

5. The interdepartmental committee has no evidence that other insecticides, when used in vaporizers in the presence of people or where food is present, are effective or safe.

#### APPROVED BY THE COMMITTEE

WASHINGTON, D. C.

OCTOBER 22, 1952

H. L. Haller, Chairman

Interdepartmental Committee on Pest Control  
Address:

Bureau of Entomology and Plant Quarantine  
U. S. Department of Agriculture  
Washington 25, D. C.

S. W. Simmons, Secretary

Interdepartmental Committee on Pest Control  
Address:

Technical Development Branch  
Communicable Disease Center  
U. S. Public Health Service  
P. O. Box 769  
Savannah, Georgia.

#### MANUAL OF APPROVED IMMUNIZATION PROCEDURES AND TECHNICS NOW READY

The Iowa State Department of Health has prepared a manual of approved immunization procedures and technics. This manual gives in detail the materials to use and procedures to follow in immunizations in the state of Iowa. Letters with order cards were sent out several months ago to all doctors. These orders have been filled. If any doctor failed to order his copy and wishes to have one, he may obtain it by sending a card to the Division of Maternal and Child Health, Iowa State Department of Health, Des Moines, Iowa.

#### TIMELY SUGGESTIONS FOR SEWAGE TREATMENT PLANT OPERATORS AND CITY OFFICIALS

Lack of rain throughout Iowa has reduced the stream flows to low stages. Consequently, less water is available for the dilution of sewage and wastes. The lower stream flows, accompanied by warm weather, mean less oxygen for self-purification. This means extra attention must be given to the operation of facilities to prevent serious pollu-

tion from resulting in the loss of aquatic life and the creation of public health hazards.

The onset of winter, with the ice coverage of the streams, will increase the seriousness of the situation, particularly if the streams remain low. Ice cover prevents re-aeration and the replacement of the oxygen used in the stabilization of wastes. All units of every treatment plant should be prepared for winter operation, so effective treatment will be provided at all times. Bypassing of plants must be avoided.

The following items should be included in the preparation of plants for winter.

1. Service all mechanical equipment and repair if necessary.

2. Clean and repair siphons and siphon chambers.

3. Check and clean heating equipment, including auxiliary equipment.

4. Thoroughly clean and repair all distribution equipment on filters. Check mercury seals and oil in rotary distributors.

5. Provide windbreaks on at least the north and west sides, or periphery of trickling rock filters, if necessary.

6. Remove dried sludge from sludge beds for early spring drawing if necessary.

7. Draw sludge to allow sufficient sludge storage for solids accumulation through the severe months.

8. Protect all valves from freezing and check drain valves for operating condition.

9. Clean and mound sand filters 12 to 14 inches high on approximately eight foot centers, or ridge the sand to approximately the same height in such a way that the settled sewage will cover the bed.

10. Make provision for operator to spend sufficient time at the plant, for maximum efficiency.

Stream pollution is an enemy to health and to the natural resources of the state. The existing plants should be kept in efficient, 24 hour daily operation. Where no treatment plants exist, planning for the necessary construction should be initiated immediately so all of our streams will be afforded year round protection.

#### MORBIDITY REPORT

DISEASES	Nov. 1952	Oct. 1952	Nov. 1951	MOST CASES REPORTED FROM THESE COUNTIES
Diphtheria .....	4	2	2	Black Hawk 2, Mills 1, Woodbury 1
Scarlet Fever ...	75	23	60	Buena Vista, Clinton, Du- buque, Polk
Typhoid Fever ..	2	6	4	Scott, Tama
Smallpox .....	0	0	0	
Measles .....	182	40	7	Boone, Buena Vista, Linn
Whooping Cough	55	10	17	Boone, Polk
Brucellosis .....	29	42	20	Scattered
Chickenpox ....	355	44	155	Clinton, Des Moines, Linn
Meningitis Men..	3	0	6	Linn 2, Polk 1
Mumps .....	47	11	122	Linn, Polk, Union
Poliomyelitis ..	278	*729	25	Black Hawk, Dubuque, Polk
Rabies in Animals	12	11	10	Carroll 2, (others scattered 1 to a county)
Tuberculosis ...	63	67	64	For the state
Gonorrhea .....	68	52	53	For the state
Syphilis .....	75	81	131	For the state

\* 114 Delayed Reports included in above figure.



---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Black Hawk

Dr. Paul Bucy, professor of neurosurgery, University of Illinois, and chief of surgical service, Chicago Memorial Hospital, discussed "Intervertebral Discs" at the November meeting of the Black Hawk County Medical Society. The group met at the Elks' Club, Waterloo, November 18. On December 2, members of the County Medical Society convened at KXEL Studios, east of Waterloo. Following a social hour and dinner, the 1953 officers were elected. They include: Dr. George A. Bairnson, Cedar Falls, president-elect; Dr. Don H. Penly, Cedar Falls, vice-president; Dr. Ross G. Randall, Waterloo, secretary, and Dr. George C. Murphy, Waterloo, re-elected treasurer. Dr. Frank H. Reuling, Waterloo, was chosen last year to serve as president during 1953.

---

### Dubuque

Dr. Richard D. Eckhardt, assistant chief of medical service, Veterans Hospital, Iowa City, and assistant professor of internal medicine at the University Hospital, lectured on "Clinical Management of Liver Disease" at the November meeting of the Dubuque County Medical Society November 11. The lecture was preceded by a turkey dinner in the Dutch Room of the Hotel Julien Dubuque.

---

### Humboldt

New officers of the Humboldt County Medical Society for 1953 are Drs. Asaph Arent, president; Arthur E. Jensen, secretary and treasurer; James H. Coddington, delegate to the 1953 State Convention, and Ivan T. Schultz, alternate delegate. They were elected at the regular meeting, held November 11 in the office of Dr. Coddington, Humboldt.

---

### Linn

Dr. Sture A. M. Johnson, professor and head of the department of dermatology and syphilology at the University of Wisconsin Medical School, Madison, was guest speaker at the meeting of the Linn County Medical Society November 13. The meeting was held in the Montrose Hotel, Cedar Rapids. Dr. Johnson's subject was "The Diagnosis and Treatment of Some Common Skin Disorders."

---

### Madison

Dr. Raymond W. Carson, Winterset, is the 1953 president of the Madison County Medical Society.

Other officers elected are Drs. John F. Veltman, vice-president; John E. Evans, secretary-treasurer; Ivan K. Sayre, delegate, and C. B. Hickenlooper, alternate delegate. The election was held in Winterset November 20.

---

### Marshall

Dr. Russell M. Wolfe, Marshalltown, was elected president of the Marshall County Medical Society at the annual business meeting, held December 2 in Marshalltown. Other officers include Dr. Milo E. Jeffries, vice-president, and Dr. Harold E. Saur, secretary-treasurer. Both are from Marshalltown.

---

### Page

Members of the Page County Medical Society met November 20 for dinner and a meeting at the Linderman Hotel, Clarinda. Dr. Howard V. Hunt and Dr. Ralph Moore, both of Omaha, Neb., were the speakers. Dr. Hunt, professor of radiology at the University of Nebraska College of Medicine, discussed the use of radioactive iodine in treatment of diseases of the thyroid. Dr. Moore's subject concerned radiographic findings in functional diseases. He heads the department of radiology at Children's Hospital.

---

### Polk

Living past presidents and their wives will be honored at the annual meeting and election of officers of the Polk County Medical Society, to be held January 21 at the Savery Hotel, Des Moines. Member doctors and their wives will be in attendance.

---

### Pottawattamie

Merrill E. Hunt of the State Department of Vocational Rehabilitation, Des Moines, spoke at the November 18 meeting of the Pottawattamie County Medical Society. The meeting was held in the evening at Hotel Chieftan, Council Bluffs.

---

### Sac

Dr. Daniel A. Glomset, Des Moines, addressed the members of the Sac County Medical Society November 12 at the Park Hotel, Sac City. Dr. Glomset's topic was on peptic ulcer. He stressed modern methods of early diagnosis.

---

### Scott

Dr. Walter P. Blount, instructor in the Mar-

quette University School of Medicine, was speaker at the December 2 meeting of the Scott County Medical Society, held at the Outing Club, Davenport. His subject was "Fractures in Children Are Different." The Society voted to hire a local member to act as a public relations representative for the organization, to handle all press-radio problems and to act as a spokesman for the Society in dealing with public relations.

---

#### Shenandoah

Dr. Wayland H. Maloy, Shenandoah, was named president of the Shenandoah County Medical Society at the December meeting. New vice-president is Dr. Kenneth J. Gee, Shenandoah. Dr. Philip L. Spencer, Essex, was elected secretary-treasurer.

---

#### Union

Dr. John L. Hoyt, Creston, was elected 1953 president of the Union County Medical Society. New vice-president and president-elect is James B. Gault, and secretary-treasurer is Harold J. Peggs. Dr. Gault is to be blood bank liaison officer; Dr. Modesto R. Paragas, civil defense liaison officer, and Dr. John A. Liken, hospital board liaison officer. Members of the Society voted to have the retiring president automatically fill the three year Board of Censor vacancy. The Board therefore stands: Dr. Cullen B. Roe (chairman), Dr. Liken and Dr. Paragas.

---

#### Wapello

Dr. Arthur DeBoer, associate professor of surgery, Chicago, Ill., was guest speaker at the December 2 meeting of the Wapello County Medical Society held at St. Joseph's Hospital, Ottumwa.

---

#### Woodbury

County representatives of the press and radio were honored at the regular meeting of the Woodbury County Medical Society November 20, held at the Warrior Hotel, Sioux City.

---

#### PERSONALS

**Dr. Cornelius P. Addison**, formerly of Fort Dodge, has associated with **Dr. Richard W. Driver**, Waterloo.

**Dr. W. Gordon Doss**, formerly of Mount Ayr, took over the practice of **Dr. Merrill E. Henslin**, Cresco, who recently located in Santa Ana, Calif.

**Dr. Richard E. Goenne**, a native of Davenport, has opened offices in Davenport to practice obstetrics and gynecology. Dr. Goenne was graduated from the SUI College of Medicine in 1946. He interned at Harper Hospital, Detroit, and later

accepted a residency in obstetrics in Iowa City at the University.

**Dr. Paul Guggenheim**, formerly with the Cogley Clinic, Council Bluffs, has joined the staff of the Winter Veterans Administration Hospital in Topeka, Kan. He will be replaced on the Cogley staff by **Dr. H. J. Herbert**, Omaha, specialist in ear, nose and throat pathology.

**Dr. Robert E. Jongewaard**, formerly of Fort Dodge, has located in Scranton.

**Dr. Francis N. Johnson**, formerly of Madrid, has located in Boone.

**Dr. James D. Mahoney**, Council Bluffs, spoke on "Antabuse in the Treatment of Alcoholism" at the Iowa-Nebraska-South Dakota regional neuropsychiatric meeting held November 29 and 30 in Omaha, Neb.

**Dr. Norman Mitchell**, formerly of Richmond, Va., has been appointed chief of physical medicine rehabilitation service at Knoxville Veterans Hospital. Dr. Mitchell was graduated from the Syracuse University College of Medicine in 1928. He interned at Michael Reese Hospital, Chicago.

**Dr. Gordon L. Neligh**, formerly of Sault Ste. Marie, Mich., has joined the Cogley Clinic, Council Bluffs, as a member of the internal medicine staff. He was graduated from the University of Nebraska College of Medicine, Omaha, in 1943. Dr. Neligh interned at Huntington Memorial Hospital, Pasadena, Calif., and took his residency in internal medicine at the University of Michigan Hospital, Ann Arbor.

**Dr. Howard Ruliffson**, Storm Lake native, has associated with **Dr. James A. Cornish**, Storm Lake, in the practice of medicine and surgery. Dr. Ruliffson was graduated from the SUI College of Medicine in 1950. He served his internship in a Youngstown, Ohio, hospital. For the past year he has been resident in surgery at the University Hospitals, Iowa City.

**Dr. Norman Schacht**, formerly of Graettinger, has associated with **Dr. Lyl J. O'Brien**, Fort Dodge. Dr. Schacht received his medical degree at the SUI College of Medicine in 1951. He completed his internship last June at the Edward W. Sparrow Hospital, Lansing, Mich.

**Dr. Sidney E. Ziffren**, of the SUI College of Medicine, Iowa City, presented a paper at the sixth annual clinical session of the American Med-



ical Association held the first week of December in Denver, Colo. Dr. Ziffren's subject was operative risk in surgery on the aged.

### DEATH NOTICES

**Dr. Thomas Parsons Bond**, 89, Des Moines physician for 40 years, died of a heart attack November 30 in an Altoona nursing home. Dr. Bond was graduated from the Wisconsin College of Physicians and Surgeons, Milwaukee, Wis., in 1902. He was a life member of the Polk County and Iowa State Medical Societies.

**Dr. John Edwin Norment**, 52, Clinton, died November 12 in Jane Lamb Hospital, Clinton, where he had been a patient for 10 days. Dr. Norment received his medical degree from the University of Maryland School of Medicine and College of Physicians and Surgeons in 1924. He was a member of the Clinton County and Iowa State Medical Societies.

**Dr. Chester Lloyd Putnam**, 66, deputy state commissioner of health, died of a heart ailment December 2 at Iowa Lutheran Hospital, Des Moines. He was graduated from the SUI College of Medicine in 1912. Dr. Putnam was a member of the Polk County and Iowa State Medical Societies at the time of his death.

### ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of December 10, 1952

Ackerman, J. H., Clarksville  
(Tallahassee, Fla.) ...Senior, Asst. Surg., U.S.P.H.S.  
Ashby, J. D., Davenport  
(Battle Creek, Mich.) .....Major, U.S.A.  
Bartholomew, R. D., Lake City  
(Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R.  
Benge, D. K., Dows  
(APO San Francisco, Calif.) .....Capt., U.S.A.  
Benton, J. S., Des Moines .....1st. Lt., A.U.S.  
Bogle, W. C., Marion  
(Great Lakes, Ill.) .....Lt., U.S.N.R.  
Baatelien, N. T., Des Moines  
(Camp Carson, Colo.) .....1st. Lt., U.S.A.F.  
Brown, R. C., Mason City  
(Kansas City, Kan.) .....Capt., A.U.S.  
Couchman, P. G., Des Moines  
(San Antonio, Tex.) .....1st. Lt., U.S.A.F.  
Davidson, M. C., Emmetsburg  
(El Paso, Tex.) .....Col., A.U.S.  
Davis, S. K., Des Moines  
(Seattle, Wash.) .....  
Donahoe, J. F., Fort Dodge  
(Camp Atterbury, Ind.) .....1st. Lt., U.S.A.F.  
Dooly, J. E., Fort Dodge  
(Pleasanton, Calif.) .....Capt., U.S.A.F.  
Fitch, R. E., Des Moines  
(Bangor, Me.) .....1st. Lt., U.S.A.F.  
From, Paul, West Des Moines  
(San Antonio, Texas) .....1st. Lt., U.S.A.F.  
Gladstone, W. S., Jr., Iowa City  
(Crestview, Fla.) .....U.S.A.F.

Greco, D. J., Des Moines  
(APO San Francisco, Calif.) .....1st. Lt., A.U.S.  
Hickman, D. M., Indianola  
(Gunter AFB, Ala.) .....1st. Lt., U.S.A.F.  
Horton, R. R., Algona  
(Seattle, Wash.) .....Lt., U.S.N.R.  
Jensen, K. V., Newton  
(El Paso, Texas) .....Capt., U.S.A.F.  
Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) .....Capt., U.S.A.F.  
Johnson, M. H., Iowa City  
(APO New York, N. Y.) .....Capt., A.U.S.  
King, R. E., Des Moines  
(APO San Francisco, Calif.) .....Capt. A.U.S.  
Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) .....Lt., U.S.N.R.  
Kuehn, W. G., Clarinda  
(APO San Francisco, Calif.) ....Lt. (j.g.), U.S.N.R.  
Kurth, R. J., Waterloo  
(Minneapolis, Minn.) .....Capt., U.S.A.F.  
Landis, S. N., Des Moines  
(Shreveport, La.) .....Major, U.S.A.F.  
Leiter, E. R. K., Des Moines  
(Bangor, Me.) .....Capt., U.S.A.F.  
Martins, J. K., Waterloo  
(New London, Conn.) .....Lt., U.S.N.R.  
Merkel, B. M., Des Moines  
(Greensville, S. C.) .....Col., U.S.A.F.  
Middleton, W. H., Central City  
(Quantico, Va.) .....U.S.N.R.  
Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) .....Lt. Col., A.U.S.  
Mulder, L., Sioux Center  
(Sioux Falls, S. D.) .....Capt., U.S.A.F.  
Neagle, P. E., Dubuque  
(Sault Ste. Marie, Mich.) .....Capt., A.U.S.  
Nordin, C. A., Des Moines  
(Lackland Field, Texas) .....1st. Lt., U.S.A.F.  
Odell, J. E., Iowa City  
(Seattle, Wash.) .....Lt., U.S.N.  
Paul, R. E., Des Moines .....U.S.N.R.  
Punttenney, A. W., Boone  
(Portsmouth, Va.) .....Lt., U.S.N.R.  
Ruble, R. L., Nevada  
(Camp Chaffee, Ark.) .....A.U.S.  
Saunders, R. J., Colfax  
(Great Falls, Mont.) .....1st. Lt., U.S.A.F.  
Schlichtemier, E. O., Peterson  
(Long Beach, Calif.) .....Lt., U.S.N.R.  
Schultz, M. H., Waterloo .....Capt., U.S.A.F.  
Shaffer, F. J., Iowa City .....Col., U.S.A.F.  
Shuldberg, Arthur, Des Moines  
(Gunter AFB, Ala.) .....1st. Lt., U.S.A.F.  
Smith, C. B., Iowa City  
(Ft. Sam Houston, Texas) .....Capt., A.U.S.  
Stutsman, R. E., Washington  
(Miami, Fla.) .....Cmdr., U.S.N.  
Thistlewaite, E. A., Des Moines  
(Riverside, Calif.) .....1st. Lt., U.S.A.F.  
Tice, W. K., Iowa City  
(Kansas City, Kan.) .....1st. Lt., A.U.S.  
Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) .....1st. Lt., A.U.S.  
Tyler, D. E., Shenandoah  
(Great Lakes, Ill.) .....U.S.N.R.  
Vincent, J. F., Fort Dodge  
(Langley A.F.B., Va.) .....Capt., U.S.A.F.  
von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) .....Lt., U.S.N.R.  
Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) .....U.S.N.R.  
Waldmann, E. B., Council Bluffs  
(Santa Ana, Calif.) .....Lt., U.S.N.R.  
Walz, D. V., Le Mars  
(Sioux Falls, S. D.) .....1st. Lt., U.S.A.F.  
Wehrmacher, W. H., Iowa City  
(Oceanside, Calif.) .....U.S.N.R.

Wiedemeier, J. L., Sioux City  
 (APO San Francisco, Calif.) .....1st. Lt., A.U.S.  
 \*Wilkins, D. S., Iowa City  
 (APO San Francisco, Calif.) .....Capt., A.U.S.  
 Witte, H. J., Marathon  
 (San Francisco, Calif.) .....Lt. Col., A.U.S.  
 Young, R. A., Clarion  
 (Ft. Sam Houston, Tex.) .....Capt., A.U.S.  
 Zeilenga, R. H., Orange City  
 (Madison, Wisc.) .....1st. Lt., U.S.A.F.

## BLUE CROSS-BLUE SHIELD

(Continued from page 34)

Iowa State Medical Society, discussed the history of Blue Shield, its purpose for existing, and generally outlined a salesperson's responsibility in offering Blue Shield to the public. They stressed the fact that a third party had been introduced into the practice of medicine with the advent of Blue Shield and that the sales force should be extremely careful not to do anything to interfere with good doctor-patient relations. These sales representatives were cautioned about misrepresentation of Blue Shield and were asked to exert extra effort in making known the contract's exclusions as well as its provisions. There has been a feeling for a time that the sales people possibly were leaving the members with the impression that everything would be covered if they purchased both Blue Cross and Blue Shield.

The Sioux City sales force was complimented by the two speakers for its excellent job in increasing Blue Shield enrollment in that area. Enrollment in the Sioux City area in Blue Shield has doubled since Jan. 1, 1950.

The conference convened again Saturday morning in the Blue Shield offices, at which time Mr. W. H. Sherin and Mr. Tom Garbett explained the complete operation in processing a Blue Shield claim. Following this orientation in claims procedures, the group was shown a film on corn picker accidents. This was for the purpose of giving them a greater awareness of farm accidents and to encourage their assistance in reducing the incidence. Many of these sales representatives spend a good portion of their time calling on farm families.

At the conclusion of the film, the representatives were taken to the new offices of the Iowa State Medical Society where they heard a discussion of medical society organization, public relations and some of the problems which confront the profession in dealing with Blue Shield.

The meeting was adjourned, following a luncheon at the Commodore Hotel. The luncheon speaker was Dr. Tom D. Throckmorton of Des Moines, who reiterated many of the things covered the previous evening by Drs. Olsen and Bernard. He too stressed careful selling of Blue Shield.

## DISTRICT IOWA INTERPROFESSIONAL ASSOCIATION MEETING

The first in a series of district interprofessional meetings was held in Des Moines December 8 at the Savery Hotel. Spokesmen from the various health professions related progress of their respective groups and outlined future plans. The Iowa Interprofessional Association is comprised of doctors of medicine, dentists, nurses, veterinarians, pharmacists and hospital administrators. The speaker for the Iowa Pharmaceutical Association, Mr. Harvey J. Norgaard of Onawa, its president, reported that pharmacy, along with the other health professions, has made great strides in the past few years. Mr. Norgaard cited the improved education of pharmacists and their stepped-up program in research. He believes pharmacists have assisted physicians in increasing our life span by the fact that 90 per cent of the prescriptions filled today could not have been filled ten years ago. This, of course, is an outgrowth of the advent of the new wonder drugs, Mr. Norgaard said. He spoke of the various banks of medicine available to physicians to draw on in treating patients, and the fact that these adequate drug stocks make it possible for a physician to prescribe a particular medication for a particular patient at a particular time. He spoke of the expanded use of refrigeration in the storage of medications, stating that "Just a few years ago a rather small household-type refrigerator was adequate for all but the largest operators; now we find the largest of the household types in most any store. Those who have any amount of prescription business have moved into the commercial type of refrigeration."

The pharmaceutical president believes that pharmacists have met and will continue to meet all challenges presented and in so doing have necessarily and willingly worked closely with the allied health professions, more especially with physicians. He listed the aims of the I. Ph.A. as striving for continued improvement of pharmaceutical training and continued improvement of prescription departments in retail pharmacies and in hospitals. He cited as an objective the effort to pass a drug store licensing bill in the 1953 legislature. This is to be done by amending the Iowa Code relating to the practice of pharmacy so that it will recognize licensing; inspection and regulations of pharmacies; prescribe the standards of equipment and pharmacy operation; delineate the powers of the Board of Pharmacy and set fees for licensing. It will also provide regulations, enforcement procedures and penalties, and will empower the Board of Pharmacy to review or refuse to renew the license of any pharmacy that fails to comply with the practice requirements of the law. All this is being attempted so that the standards of pharmaceutical practice may be rated still higher and to establish minimum requirements for the operation of a pharmacy. "These objectives are set forth in the hope that we in pharmacy can do our part in improving health standards and bringing better health care to the people of Iowa," Mr. Norgaard concluded.

Speaking on behalf of the nurses, Miss Jessie Norelius, Des Moines, executive secretary of the Iowa State Nurses Association, stressed three points in her comments: nurse recruitment, distribution of nurses and nursing education. She emphasized that the Iowa Association members are trying to coordinate the nurse recruitment effort of many organizations and communities. Miss Norelius cited work with voluntary



agencies which provide active scholarships: the Cancer Society, Women's Auxiliary to the Iowa State Medical Society, American Legion Auxiliary, etc. She stated that more nursing scholarships are needed from the communities where there are hospitals, particularly in areas where new hospitals are being built. What with the number of new hospitals and additions to old structures, expanded programs in the state mental institutions and increased demands of Veterans Administration hospitals in the state, "we need to constantly expand the training programs for nurses," Miss Norelius said. She believes that the problem of training an adequate number of nurses can be resolved by cooperation of interested organizations and community activity. She spoke of the problem of nurse distribution and told of the counseling and placement service available to nurses through the State Association. She said that the Association works with the employer as well as the employee in getting nurses into positions for which they are best qualified.

The next speaker was Mr. Donald Cordes, Des Moines, President of the Iowa Hospital Association. He said that the Iowa Hospital Association plans to support a bill in the next legislature which will give county hospitals the right to negotiate contracts with insurance companies. This is to be done in an effort to clarify the recent ruling of the Attorney General which questioned a county hospital's right to enter into an agreement with Blue Cross. The I. H. A. plans to also support a bill which is to be introduced by county attorneys relieving the county attorney of the responsibility of collecting bills for county hospitals. They are to support certain changes in O.A.S.I. Mr. Cordes also reported on some of the problems of small hospitals, particularly financial.

The dentists, represented by Dr. Floyd W. Pillars of Des Moines, president of the Iowa State Dental Society, related progress in dentistry and said that he was hopeful that there could be further unification of dentists, resulting from increased activity on the part of the State Association. He spoke of work with the Department of Dental Hygiene and expressed a desire for more cooperation between the State Dental Association and the Department of Dental Hygiene in order for their activity to be more effective in providing dental care for the people of Iowa. Dr. Pillars commented favorably on fluoridation of water and asked for continued effort to expand its use.

Speaking on behalf of the Iowa State Medical Society, Dr. Ben T. Whitaker of Boone, president, said that the State Society has assumed as one of its major projects the continuance of physician placement. He said that the Medical Society was actively trying to place physicians being released from service into communities where doctors have been called to military duty, as well as to redistribute physicians from urban areas to Iowa towns where there is a need for a doctor. He said that over 200 men have been so placed within the past two years. Continuing, Dr. Whitaker stated that during World War II one physician served approximately 1,500 persons and that that figure was used in determining the essentiality of physicians. He said that Iowa has one physician for every 995 persons. In order to further cooperate in increasing the number of physicians in Iowa, the Iowa State Medical Society cooperated with the Iowa legislature to obtain additional funds to increase the size of the freshman medical class from 90 to 120.

"A report of June, 1952 shows a 50 per cent gain in enrollment at the College of Medicine since the school year of 1947-48," he said. Continuing, Dr. Whitaker remarked that the State Medical Society, in cooperation with the College of Medicine, has supported a preceptor program in which all junior medical students can work with a general practitioner during the summer months. This is done in an effort to familiarize them with general practice and to encourage their entry into the general practice field. The Society has an official loan fund to help senior medical students, and members of the society are now setting up another large loan fund, one condition of which will be that the student will agree to enter general practice in Iowa for five years after internship. Another problem to which attention is being given is nurse recruitment and utilization. "We have a feeling that nurses are not utilized to the best advantage in some of the government hospitals and we believe the government services, particularly the Veterans Administration, should assume the responsibility of training their own nurses and cease recruiting from private hospitals," the President said. He spoke of work with the Extension Service of Iowa State College and the State Department of Health in establishing local health councils. According to Dr. Whitaker, 33 such councils are now in existence. It is the President's opinion that the local community should accept its share of the responsibility in matters of health. He believes that as a result of community interest a more satisfactory service can be rendered with regard to efficiency and economy. On the question of hospital medical surgery insurance protection, Dr. Whitaker said, "We are extremely pleased with the growth of Iowa Blue Cross-Blue Shield." He stated further that of the population of 2,600,000 persons, 1,309,000 have hospital insurance, of which over half is Blue Cross. In addition, 1,045,000 are protected with medical and surgical coverage. He spoke of the Grievance Committee, which was created by the Iowa State Medical Society two years ago for the purpose of handling misunderstandings about medical care. He said that it was this Committee's responsibility to investigate any charge brought to its attention and to adjudicate it to the best of its ability. One point which was stressed in the President's address was the danger inherent in government by treaty. He said that a treaty of the government supersedes any or all state laws. One pending threat which he spoke of specifically was a covenant entitled "Minimum Standards of Social Security." It was approved by the International Labor Organization in Geneva in June of 1952.

Dr. Whitaker emphasized that this envisions government benefits in nine fields of social security; and while the medical benefits in the covenant are carefully distributed through the document, when they are considered together they constitute "socialized medicine." Continuing, he said that socialism by treaty is now a greater threat than socialism by domestic legislation, primarily because the possibility of political and economic regimentation from an external source is not widely recognized. He asked all members of the health professions in attendance to ask their Congressmen in Washington to support the Bricker amendment (S.J. Res. 130), which would make it impossible to abridge the laws of the United States or of the several states unless Congress should provide for such change by its own act. Under the present arrangement, a majority of the Senate present can ratify the treaty



or covenant without having it passed through the normal procedures of hearing committees, Senate and House. Commenting on state legislation, Dr. Whitaker said that the Iowa State Medical Society feels the Medical Practice Act is far from being as strong as it should be. He said that the Board of Medical Examiners has power to examine but is without power to enforce the licensing laws. In addition, he said that we have no provision for temporary licensing which might be helpful in the case of foreign students. He spoke of the Society's interest in the Veterans Administration and said that undoubtedly all of the health professions are confronted with associated problems. "We know the nursing Association finds the VA takes many of its nurses and we know, too, that at the present time about 90 per cent of the load in our VA hospitals is non-service-connected. We also know that new hospitals are being built in the face of difficulties in obtaining adequate staff for present hospitals," he said. The medical president encouraged a more realistic approach in determining the need for hospitals and subsequent restrictions in the use of these hospitals to those who had injuries inflicted while in service.

Last, but not least, he recommended efforts to get as many people as possible to obtain insurance against the costs of hospital and medical care.

The spokesman for the Iowa Veterinary Association was Dr. F. B. Young of Wauke, secretary-treasurer. He said that the membership of his State Association now approximates 650 veterinarians and that every county in the state is represented in the group. According to Dr. Young, the veterinary profession has made great progress in the 65 years it has had state association. He believes that no livestock industry such as this state supports could have been developed without the disease control supplied by the veterinary profession. Giving an example, he said that the horses that provided the power to farm our land up until the last 20 years were continually threatened by such diseases as glanders, dourine, swamp fever and corn stalk poisoning, and that they were held in check by Iowa's practicing veterinarians. According to the veterinary spokesman, a veterinarian today works mostly in the field of meat producing and dairy animals. He added that the practical eradication of tuberculosis in cattle and swine has been accomplished. He said that such diseases as hog cholera, swine erysipelas, anthrax and many other parasitic diseases have been controlled by these practitioners through the knowledge that research has supplied. He cited other diseases which cause severe economic loss and as yet not controlled, including brucellosis, leptospirosis and dystrophic rhinitis. According to Dr. Young, about 100 diseases of animals are transmissible to man. He cited tuberculosis, rabies, trichinosis, tularemia, psittacosis and Q-fever as examples. Continuing, Dr. Young said that these and many others present a hazard to public health. He spoke of the health of pet animals whose value can only be estimated by their owners. Dr. Young stated that the veterinary profession is much concerned over the trend in Iowa farming since the last war. With increasing demand for labor by industry, farm help has become scarce. Modern farm machinery is expensive and it is necessary to farm a large acreage to make a profit. Speaking fur-

ther on this problem, he said that many farmers do not take the time or hire help to raise livestock since they can make the same money or more by selling their corn at government-fixed prices. "Under this arrangement they do not have to worry about fluctuating livestock prices," Dr. Young said. According to Dr. Young, less than 20 per cent of our corn can be utilized as corn meal, corn sirup, corn starch, corn oil and corn whiskey. The other 80 per cent has to go for livestock and poultry feed. He believes that if this trend continues most Iowa farmers will raise grain exclusively and that poultry, hogs, cattle and sheep will be fed in large packer-owned feed lots located near the packing plants. The dairy industry will move to other states with less productive acres. He believes that if we must have subsidies for agricultural production they should be used as an incentive to produce more food for our people. Continuing, he stated that the veterinary profession in Iowa is not asking to be subsidized, but it feels that the *per diem* pay for state work, such as T B testing of cattle, should be raised. The present pay of \$10.00 per day and five cents a mile is the same as it was in the depression years, and that fee is set by law. Speaking for the veterinarians, the State Secretary said that they would like to have a workable law to control brucellosis and that there are continual demands by livestock raisers for this type of control. He said that brucellosis is now costing Iowa farmers millions of dollars every year in cattle and hog losses. Continuing, Dr. Young remarked that we have the know-how to control and eliminate this disease, and that it is being activated in other states. "In Iowa, if a cow aborts, all you have to do is take her to a sale barn and sell her. Many herds are infected in this way every year." He believes that Iowa needs a new diagnostic laboratory at Iowa State College where we and our clients can receive aid in the diagnosis of the diseases of farm animals. He said that many of these tests are too intricate and time consuming to be performed by the practitioner. He believes veterinary medicine has outgrown the facilities now available at the State College and that, while the staff at the College is excellent, it is too small and the laboratory inadequate to handle the cases presented. Dr. Young cited as an example cases in which specimens have to be sent out of the state for diagnosis, requiring even weeks before a report is received. In his opinion, Iowa, with its large animal population, should be at the top in animal disease research. "A young man will not enter the research field and stay in it if he cannot make enough in a week to pay the plumber to fix a clogged drain." Continuing, the Secretary said that, outside of small animal practice, there is little sentiment involved in the practice of veterinary medicine and that the veterinary profession will remain economically sound only so long as it is profitable to the livestock raiser to employ veterinarians. "Disease control and eradication programs can be successful only if they are well organized and supported by the livestock raisers." Such support, with adequate legislation, will enable the profession to live up to its slogan to make Iowa the safest place in the world in which to raise livestock.

*Similar meetings were held in Waterloo, Ottumwa, Atlantic and Storm Lake, where the same information was conveyed to the audiences. Attendance was exceptionally good at all of the meetings.*



# *The* JOURNAL

*of the*

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, FEBRUARY, 1953

No. 2

### SOME COMMON OBSTETRICAL PROBLEMS AND THEIR MANAGEMENT

DRAPER L. LONG, M.D.  
MASON CITY

PROBABLY the "migraines" among headaches common to the practice of obstetrics are: (1) The Rh factor, (2) threatened miscarriage and (3) the "overdue" patient.

I would like to discuss these controversial subjects briefly, citing ideas found in recent literature and experiences encountered in my work and that of fellow practitioners. It is likely that they will vary in management from one community to another, according to the philosophies of individual physicians, although the end results may be nearly the same. My hope is to provide another "aspirin" for the management of these headaches.

#### THE RH FACTOR

The Rh factor has been highly advertised and discussed in medical literature, as well as in the lay press. The more intelligent class of patients is familiar with it to the extent that we must be prepared to allay the fears of mothers concerning their unborn children.

Some doctors question the value of Rh testing, since too little is known about it for tests to be of practical value. They argue it only adds more expense and gives many patients, especially the "worriers," added excuse to fret.

However, the death of an erythroblastic infant will often cause the mother to wonder why the Rh condition wasn't at least suspected. She will reason that another doctor with some knowledge that her baby was to be born sick might have saved it. Patients expect the physician to practice in the light of newer knowledge, and they resent an indifferent attitude toward this subject. Nearly all leaders in the field are testing their patients, and in turn, are advising others to do so.

I believe, therefore, that the time to explain this entire procedure to the Rh-negative mother should be taken. She should know that only one in 300 deliveries will ever show a hemolytic disease

in the newborn; that even though she is Rh-negative and her husband Rh-positive, there is only a 4 per cent chance that her baby will be affected. She should also know that the application of recent knowledge has improved the prognosis for affected infants; that most Rh-negative women can have two or more Rh-positive children before they are sufficiently sensitized genetically. The outlook for recovery of the first Rh positive infant born to a mother after sensitization is good: 30 per cent have no disease; few are still-born. The current tendency toward smaller families and the fact that heterozygous fathers can have normal Rh-negative children, are other safety factors.

The chief value apparent in testing for the Rh factor is that, in many instances, the physician can predict whether or not the baby will be sick. Preparations can then be made. A pediatrician should be on hand, if possible, and the cord blood or the baby's blood should be tested (CBC, Coombs' test and Rh blood type). The cord should be left long enough so that a replacement transfusion can be done, quickly if indicated. This preparation is somewhat analagous to taking hundreds of routine chest x-rays, and even though only a few may show anything, because the few who are helped may make the whole program worth-while.

Routinely, primiparas are not tested unless they have had a transfusion of blood intravenously or intramuscularly. If the donor's blood Rh type is unknown, then she should be tested. All multiparas are tested on their first visit to the office. If negative, their husbands are also checked. In selected cases, depending on the individual circumstances, it is also wise to check other children in the family. The patient should be given a Coombs' test for the presence or absence of blocking antibodies. This test is repeated at seven, eight and eight and a half months. If there is a rising titre in the last months or weeks of pregnancy, the possibility of a sick baby exists. Most men agree that to induce labor before the thirty-eighth week, or to perform a cesarean several weeks early would be of no avail. There would be double trouble with a sick baby who is also a

premature baby. On the other hand, if a woman is reasonably near term, has a titre that is rising or holding its own and the cervix is ripe for induction, induction is indicated. It is not possible to predict the outcome of the infant on the basis of antibody studies alone. The clinical history (transfusion, previously affected infant) is important.

Within the last year I have had two cases which illustrate how confusing the Rh factor can be. On March 1, 1952, a patient delivered an erythroblastic infant at term. The baby died 15 minutes after an elective cesarean. Autopsy and blood studies confirmed the diagnosis. This patient has a two and a half year old child, also delivered by cesarean because of a cephalopelvic disproportion. This child had been healthy since birth. A Coombs' test done in the fourth month of this pregnancy was negative. Later the test was positive and the antibody titre was 1:16 when repeated at eight and one third months; however, ten days later, the titre had dropped to 1:8. This pregnancy was entirely uneventful in every other way.

In contrast, another patient who delivered her second child on April 23, 1952 had a second child, also two and a half years old, who was Rh positive. The Coombs' test was negative her fifth month of pregnancy. When next repeated at eight and one third months, it was positive and the antibody titre was 1:24. Ten days later the antibody titre was 1:8. The patient was induced the following day because the cervix was partially dilated and effaced. To date, the blood counts have been normal and the signs indicating this child to be erythroblastic have been negative. The baby's Rh factor is positive, the same as the older child's.

Here, then, are two patients with practically the same findings. One baby died—the other survived. The mother of the surviving, healthy baby was probably not sufficiently sensitized by these two Rh positive infants, while the first patient was apparently sensitized by her one pregnancy.

An Rh-negative woman who has already delivered an erythroblastic infant is no doubt in for trouble in subsequent pregnancies. It may be wise to advise against further pregnancies, in these cases. However, if pregnancy does occur, we certainly must be prepared at delivery to treat the baby by exchange or multiple transfusions of Rh negative blood.

Another point to remember is that, because some Rh tests of several years ago have been found to be inaccurate, they should be repeated. With today's improved serum, the true Rh blood types are more readily detected. Although Rh blood typing can be done in the office, I prefer to use the laboratory. Trained technicians can do the Coombs' test and the blocking antibody titre.

In summarizing the Rh problem, I believe that in the average patient's case, the only essential is an Rh test on both the mother and father. This also cuts the patient's expenses to a minimum. As soon as the baby is born, a CBC, Rh

blood type and Coombs' test should be taken on the baby. The CBC should be repeated daily for several days to check for any signs of erythroblastosis. This procedure favors prompt and proper treatment, when indicated.

#### THREATENED MISCARRIAGE

I have been impressed by the overwhelming number of women who either have no children or are extremely anxious to have another child, who threaten to miscarry. A review of my last 50 cases in which abortions were threatened shows that only 6 per cent of the pregnancies were unwanted. The patients who threatened or lost them were invariably members of the better, more intelligent class. Typically, as soon as these women began to spot or cramp, they were sent to a hospital for sedation, bed rest, hormones—all of the advantages of recent knowledge. Nevertheless, a large percentage aborted.

The most acceptable explanation seems to be the presence of a psychogenic factor. Some of these pregnancies can be saved. The difficulty is that the exact reason for the threatening condition cannot be determined beforehand. It is said that about 60 per cent of these pregnancies are defective in some way, and that nature is only getting rid of the imperfect embryo. Among those women who were treated for pregnancies which threatened but did not abort, there is no greater incidence of deformity or embryological defects at term than among women who did not threaten or spot during pregnancy.

In addition to defective ovum or sperm, abnormal pregnancies develop when growth is thwarted by defective germ plasma or by an environment inimical to continued survival. Inadequate amounts of progesterone, estrogens or both, will also halt progress.

The Guterman test, which shows whether there is a progesterone deficiency or not, is valuable. However, it is unavailable to most of us. In cases of these deficiencies, results have been encouraging when large amounts of progesterone have been given; conversely, some believe progesterone accelerates abortion when there is no deficiency. In other words, "There is reason to believe that unless estrogens and progesterones are present in the proper proportion, inhibition of uterine contractions will not occur and that a predominance of either hormone may destroy the delicate balance necessary to maintain uterine quiescence."

Many men push progesterone therapy when cramping occurs. Before then, they use estrogens in rather large doses. Morphine, if given, must be used in large doses because small doses may cause uterine contractions and doses of  $\frac{1}{2}$  grain will inhibit. Demerol in many instances is satisfactory.

Management consists of:

1. The early diagnosis of pregnancy, preferably



by means of an AZ test. A pelvic examination probably would not be conclusive, and the patient, if she aborted, might blame the miscarriage on the pelvic examination.

2. Bed rest is the most important. This should be absolute and continued until all bleeding and cramping have stopped for several days. Activity may gradually be resumed. A daily speculum examination, done gently, will indicate the progressive developments. If the cervix is closed, the prognosis is good. However, if it is open and some of the products of conception are in the cervix, the uterus should be emptied. This will permit the patient to return home several days sooner.

3. Sedation is important. One hundred to 150 mgs. of demerol, or morphine grains one half are used initially. This interval can be lengthened later or barbiturates may be substituted.

4. Progesterone should be used up to 50 mgs. per day by hypo in divided doses, or 100 mgs., orally. Many men give large doses, particularly in the presence of cramping. Progesterone is indicated in progesterone deficiency as indicated by the Guterman test.

5. Estrogens are given in doses up to 100 mgs. daily. Most men are using both estrogens and progesterone. Intravenous estrogens, now available, may be a good way to raise the level in a hurry.

6. Thyroid is an important drug. It should be used in all definite hypothyroid cases or on patients whose metabolism tests on the minus side.

7. Vitamin E is used empirically, 50 mgs. per day. However, its value is not definitely known in this condition.

#### THE "OVERDUE" PATIENT

The third and last headache, the "overdue patient," concerns the problem of so-called postmaturity.

It often happens to a woman who has done well all during pregnancy that her due date arrives and nothing happens. After a week or more has gone by she may demand that the physician do something to start her labor. The fretful patient fears that her baby is getting too large, that it will have to be delivered by cesarean if she goes any further, that it will die before she goes into labor or that movement is already negligible.

What are the facts? What are we, the target of her demands, to do? Can we answer her many questions with a background of truth?

First of all, I believe it is a mistake to name a definite date for delivery. I have quite often toyed with the idea of merely telling my patients the season of the year, such as in the spring, or more specifically, early spring. Certainly the time-honored method of adding seven days to the first day of the last menstrual period, and counting back three months is only a guess. We all would avoid some difficulties if we added seven to ten days to the calculated date when using this method.

Dr. Calkins of Kansas City has said, "If an infant is to be oversized at full term, it will have acquired most of that excessive size by 260 days. Also, if an infant is large at term, its further increment in size thereafter will be so little that it will make no real difference in labor." The obvious disadvantage of inducing labor in the presence of an unprepared cervix cannot possibly be justified on the basis of this small weight increase in a postmature baby. This weight increase averages only 120 grams between 280 and 300 days. Furthermore, after 20 days beyond the due date, the baby begins to lose weight.

Dr. Rudolph Holmes goes so far as to say that he has never seen an authenticated case of postmaturity. Dr. Kemperman believes that postmaturity is a state of mind of the obstetrician, rather than an actual occurrence.

At the Boston Lying-In Hospital no case is postmature except those that go 295 days from the first day of the last menstrual period. This allows 15 days over the usual date. They claim that of those going over 15 days, there is:

1. A slightly larger baby.
2. Slight lengthening of labor.
3. A slight increase of interference.
4. No increase in fetal mortality.
5. No increase in intra-uterine death.
6. No excessive calcification or degeneration of the placenta.
7. No evidence from placental study to suggest that intra-uterine death had any relationship to postmaturity.

It is true that some so-called overdue patients have large babies, but they also have small babies. Both observations hold true for patients who are not overdue.

Strangely enough, statistics seem to show that a baby begins to lose weight, if it goes postmature beyond 20 days. Estimating that postmaturity does not exist until the pregnancy goes 15 days beyond the estimated date, and that the baby's weight will decrease five days later, there should be little worry about excessive gain in the infant's weight.

Although pregnancies occasionally seem to go overtime, this rarely warrants drastic measures. Individualization should be the keynote. Then only an occasional patient will present a problem. Patients should be taught that postmaturity is rarely a problem. Their anxious demands for induction of labor should be met with reassuring reasoning. "The increase of difficulty found in postmature patients is not of sufficient magnitude to keep patients from becoming postmature. One does not need a great experience with attempted induction in cases of postmaturity to learn that it is much easier and simpler to allow patients to go into labor spontaneously than to induce labor and have to be on call rather closely during the period of induction, at times quite a prolonged period of time.

There are several factors which influence post-

maturity (patients going 15 days over the usual due date). These factors are:

1. Heredity.
2. Constitutional factors. With a longer intermenstrual period there is a greater incidence of postmaturity.
3. Rest in bed.
4. Malposition or cephalopelvic disproportion.

Our present method of determining the exact due date has many errors. The following factors may account for errors or influence reasoning:

1. Amenorrhea may precede pregnancy.
2. The size of the uterus is not reliable—hydraminous, twins, etc.
3. Sperm have lived 21 days in the tubes.
4. A pregnancy can continue beyond the so-called "due date" for as many days as there are in the patient's menstrual cycle before necessarily being postmature.
5. The date of quickening varies.
6. Nausea and vomiting, if present, usually occur before the second missed menstrual period. Although a subjective symptom, when it occurs it is fairly reliable.

In the management of the "overdue patient," the following factors are of the utmost importance:

1. Get an accurate menstrual history when the patient first comes to the office while it is still fresh in her mind.
2. Until the time comes when we can abolish the custom of stating an exact due date to the patient, we should add at least one week to the method now in use.
3. Allay the patient's fears by assuring her that her baby:

- A. Will not grow to an excessive weight.
- B. Will not die.
- C. Will not have to necessarily be born by cesarean.

4. If, by your own standards, your patient goes overdue, weekly examinations should be done. Allow the patient to go into spontaneous labor unless the cervix is effaced and beginning to dilate; then induction is optional.

#### BIBLIOGRAPHY

1. Calkins, L. A.: Postmaturity. *Am. J. Obst. & Gynec.*, **56**:167-172 (July) 1948.
2. Kamperman, G.: Discussion of above paper. *Am. J. Obst. & Gynec.*, **56**:170-171 (July) 1948.
3. Rathbun, L. S.: An analysis of 250 cases of postmaturity. *Am. J. Obst. & Gynec.*, **46**:278-282 (August) 1943.
4. Latto, D.: Pregnancy prolonged beyond expected date. *Brit. M. J.*, **1**:1364-1366 (June 16) 1951.
5. Clayton, S. G.: Foetal mortality in post-maturity. *J. Obst. & Gynaec. Brit. Emp.*, **48**:450-460 (August) 1941.
6. Reynolds, F. N.: Problems of postmaturity. *Proc. Royal Soc. Med.*, **31**:781-787 (May) 1938.
7. Pugh, T. B.: Overdue obstetrical patient. *Kentucky M. J.*, **46**:66-68 (February) 1948.
8. Davis, M. E.; and Fugo, N. W.: Steroids in treatment of early pregnancy complications. *J.A.M.A.*, **142**:778-785 (March 18) 1950.
9. Falls, F. H.; Lackner, J. E.; and Krohn, L.: Effect of progestin and estrogenic substance on human uterine contractions; value of progestin in treatment of habitual and threatened abortion. *J.A.M.A.*, **106**:271-275 (Jan. 25) 1936.
10. Vaux, N. W.; and Rakoff, A. E.: Further studies on estrogen-progesterone treatment of habitual abortion. *North Carolina M. J.*, **7**:202-208 (May) 1946.
11. Silbernagel, W. M.: Oral therapy in management of threatened abortion. *Ohio State M. J.*, **43**:739-740 (July) 1947.

12. Bender, S.: Value of Guterman test in threatened abortion. *J. Obst. & Gynaec. Brit. Emp.*, **51**:783-792 (December) 1947.
13. Vaux, N. W.; and Rakoff, A. E.: Symposium on recent advances in gynecology and obstetrics; treatment of habitual abortion with estrogen and progesterone. *S. Clin. North America*, **25**:1324-1339 (December) 1945.
14. Levine, P.; and Wigod, M.: The Rh factor after ten years (a pamphlet). An exhibit at the Internat. Cong. Obst. & Gynec., (May 15) 1950.
15. Greenwalt, T. J.: Rh factor in pediatrics. *Wisconsin M. J.*, **49**:711-712 (July 19) 1950.
16. Browne, W. H.: Present status of the management of the Rh-negative pregnant woman. *J. Georgia M. Ass'n.*, **40**:76-77 (February) 1951.
17. Hoffman, P. B.; and Edwards, D. E.: Preliminary report on new concept in treatment of Rh-negative pregnant women. *Am. J. Obst. & Gynec.*, **59**:207-209 (January) 1950.
18. Pomerance, H. H.; and Salerno, L. J.: Survey of Rh problem in mixed racial group. *J. Pediat.*, **38**:349-353 (March) 1951.

## MANAGEMENT OF THE PERSISTENT OCCIPUT POSTERIOR POSITION

PHILIP I. CREW, M.D.

CEDAR RAPIDS

THE FETAL head approaches the pelvic inlet early in labor with the sagittal suture in the transverse diameter. Slightly more than half will soon swing the occiput anteriorly. The remaining 40 per cent (plus) will then best adapt themselves to the pelvic contours by carrying the occiput down in the posterior position. Near the end of the first, or early in the second stage, final anterior rotation is accomplished by means of uterine forces, plus the encountered bony and soft tissue resistance, in all but a few. These few per-

TABLE I

Series of 3,242 Consecutive Cases

Spontaneous	2428 (78.8%)
Operative Procedures	714 (20.2%)

sistent occiput posteriors are the cause of many obstetrical difficulties, such as prolonged labor, operative procedures from the midpelvis, increased fetal and maternal morbidity and increased fetal mortality. The proper management of these difficult occiput posterior deliveries begins with a thorough prenatal pelvic evaluation and ends with a specific delivery procedure carefully selected for each individual case.

TABLE II

714 Operative Deliveries

Low Forceps	383	53.6%
Operative Procedures on Posteriors	137	19.1%
Cesareans	127	17.7%
Operative Procedures (Breech)	65	9.1%
Version Ext.	8	0.5%
TOTAL	714	100. %

Most of the obstinate posteriors are encountered as a result of varying degrees of midpelvic or outlet contractures. These cases should be suspected during the prenatal period. Short stout women with thick necks and thick perineums, with short fingers and male distribution of body hair



will often have a male or anthropoid type pelvis. Vaginal examination may then reveal loss of vertical sacral concavity or converging narrow side walls with spines that are considerably close (9.5 cm.). A short diagonal conjugate should always arouse suspicion of a small pelvis. The next procedure in these suspected cases should be a thorough pelvic x-ray study. Such is the only accurate method of determining midpelvic contractures. It is necessary to remember that the posterior occiput is capable of producing nasty destructive situations when combined with unrecognized midpelvic contractures. There is no ideal solution when these abnormalities make themselves evident late in labor.

Pelvic architecture predetermines the conduct and outcome of many labors. It is the directing factor in the production of the posterior position as well as the guiding factor in maintaining well over half the posteriors as such throughout the entirety of labor and delivery. Therefore, it is accepted in many patients that the position is perfectly normal for their particular type pelvis and nothing should be done to arbitrarily alter it because the head fits the pelvis better in the true

TABLE III

Predisposing Maternal Characteristics	
1.	Short stout females.
2.	Thick neck.
3.	Thick muscled perineum.
4.	Short fingers.
5.	Male distribution of body hair.
6.	Abnormal vaginal findings.
a.	Sacral vertical concavity lacking.
b.	Converging pelvic side walls.
c.	Questionably close ischial spines.

posterior position. Labor should be permitted to progress without interference unless specific indications of fetal distress make delivery an immediate necessity.

Excluding the cases which should be sectioned for midpelvic or outlet contractures after a moderate trial of labor, or even before, a number of persistent cases that require operative intervention will always occur. About every fifth obstetrical operation is the result of this diagnosis. The outcome of these cases depends on the course and quality of labor, the position of the baby, the amount of flexion of the fetal head and the skill of the attendant.

Many obstinate posteriors will resolve themselves completely or will at least progress to a point beyond the spines where various operative procedures are less hazardous than when attempted from a higher level. Therefore, a good waiting period with a well sedated and adequately supported mother is probably the most important single factor in management. It requires much judgment to decide when the point has been reached after which a further wait is inadvisable. When natural progress slows or stops, it is usually then that operative intervention is demanded by

all concerned. The easiest method then available should be adopted.

To decide on a particular method of delivery in advance is an error that will frequently prove disastrous. Some posteriors cannot be rotated either manually or with forceps. These should come through with less damage if left in the posterior.

TABLE IV

Method of Delivery (Posterior)		
Spontaneous .....	92	40%
Forceps Rotation .....	69	30%
Forceps Without Rotation .....	42	19%
Manual Rotation .....	22	9%
Cesarean or Version .....	4	2%
TOTAL .....	229	100%

A limited few cannot ever be delivered of a live infant from below. These should be recognized, regardless of how late, and sectioned before repeated traumatic attempts are made at vaginal delivery. While the abdominal approach should have been anticipated, as mentioned above, it is unquestionably a life saver in a few even if used late. The hazards of podalic version as a last resort in neglected posteriors with a long moulded head can be appreciated only by those who have witnessed the effort.

The majority of these arrested cases, however, are handled rather easily. The frequency with which they are encountered demands that the attendant be acquainted with several of the accepted rotation procedures because it is not generally good to drag these posteriors through as such. Good general anesthesia will simplify the deliveries and add to the safety of the baby. The various forms of spinal anesthesia popularly used will not give adequate relaxation. A careful vaginal examination, after the patient is asleep, will determine accurately the exact position, the amount of available room and the type of forceps to select if manual coaxing of the occiput is not enough to produce rotation.

In rotation, the human hand will do less damage

TABLE V

Operative Approach	
1.	Method best adapted to the individual pelvis and baby.
2.	General anesthesia.
3.	Preserve flexion of fetal head.
4.	Avoid disengagement.
5.	Careful blade application.
6.	Traction & rotation not simultaneously.
7.	V & E very difficult with moulded heads.
8.	Avoid forceps without rotation.
9.	Manual rotation gives less trauma.

to the birth canal and the fetal head than any forceps, even though they be in skilled hands. Some heads cannot be rotated manually without disengagement. In these, forceps rotation is the only practical method by which delivery may be accomplished. The type of instrument depends entirely on the choice of the attendant. It undoubt-

edly should be the instrument with which he is most familiar. The various methods such as the Scanzoni maneuver, the "key in lock," etc., should be carried out with a minimum of leverage. Traction and rotation should never be attempted simultaneously. Oblique application of blades to the fetal head should be strictly avoided, as this is

TABLE VI

<i>Type of Instrument—133 Deliveries</i>		
De Lee-Simpson-Elliott .....	50	37.6%
Tucker McLain .....	35	26.3%
De Wees .....	30	22.5%
Keilland .....	18	13.6%
TOTAL .....	133	100. %

liable to produce tentorial tears. Each half of the instrument should be carefully applied to the sides of the head with the ear being the only accepted landmark. Moulding and caput formation will obliterate all suture lines and fontanelle in the difficult cases.

## SUMMARY

The all important points in the consideration of occiput posterior management are good prenatal pelvic evaluation and the use of x-ray studies in all cases where mid or outlet contractures are suspected.

When labor has started, a good waiting period should be permitted with the hope of spontaneous rotation or delivery. If operative rotation and delivery is required, the most applicable and safest method should be selected.

## BIBLIOGRAPHY

1. Benaron, H. B.; and Tucker, B. E.: Occipitoposterior position. *J. Iowa M. Soc.*, **40**:247-251 (June) 1950.
2. Small, T. H.: Methods for management of occipitoposterior position. *M. J. Australia*, **1**:437 (April 1) 1950.
3. Fuller, H. W.; Hall, E. L.; and McPhail, F. L.: Review of management of persistent occiput posterior positions. *Rocky Mountain M. J.*, **46**:1027-1032, (December) 1949.
4. Goodhand, C. L.: Management of occiput posterior position. *West Virginia M. J.*, **46**:85-88 (April) 1950.
5. Macgregor, T. N.: Management of persistent posterior position of occiput. *Glasgow M. J.*, **31**:1-9 (January) 1950.
6. McKelvey, J. J.; and Diefenbach, E. J.: Obstetric significance of posterior occiput position. *Postgrad. Med.*, **9**:211-214 (March) 1951.
7. King, E. L.; Herring, J. S.; Dyer, I.; and King, J. A.: Modification of Scanzoni rotation in management of persistent occipitoposterior positions. *Am. J. Obst. & Gynec.*, **61**:872-880 (April) 1951.
8. Randall, J. H.: Persistent occiput posterior. *J. Iowa M. Soc.*, **42**:148-151 (April) 1952.

The following resolution was passed by the Department of Health of Maryland:

WALTER L. BIERING

PHYSICIAN AND HEALTH OFFICER EXTRAORDINARY

The Maryland State Board of Health on motion of its senior member, Thomas S. Cullen, extends greetings and felicitations on the passage of that eighty-fourth birthday which marks the attainment of full maturity as physician, sanitarian and public health statesman.

This Board wishes for you a long continuation of your useful activity and of that enjoyment of life which we have so much admired.

## VAGINAL HYSTERECTOMY IN THE TREATMENT OF PROLAPSE

WILBUR C. THATCHER, M.D.,

PAUL L. STITT, M.D.,

AND

HOYT H. ALLEN, M.D.

FORT DODGE

To PROPERLY treat genital relaxation in the female, one should be able to do at least five operations: (1) The Manchester-Fothergill-Donald operation, (2) the LeFort vaginal obliteration, (3) a simple repair of cystocele and rectocele, (4) the Marshall-Marchetti operation for stress incontinence and (5) a vaginal hysterectomy.

Competence in performing these five operations should enable one to treat all types and degrees of pelvic floor relaxation, eliminating those less effective, less satisfactory and less anatomically perfect.

The present paper will be limited to the fifth procedure: vaginal hysterectomy in the treatment of prolapse. It will necessarily deal also with the surgical repair of vaginal walls.

The removal of the uterus through the vagina is one of the oldest of major surgical operations. In the days before asepsis, doctors, occasionally even patients, chopped off the offending uterus as it eventrated, without death ensuing. In spite of the fistulae, both urinary and fecal, the mortality was lower than with abdominal hysterectomy.<sup>1</sup>

In 1876 Czerny revived the vaginal hysterectomy, originally perfected by Souter of Constance, Switzerland.<sup>2</sup> This operation spread over Europe. It was especially well done by the Austrians in Wertheim's clinic in Vienna. Large series of vaginal hysterectomies were reported from German, Austrian and French medical centers. Great dexterity and skill in technic was developed, the bolder surgeons extending their indications to include large uterine and ovarian tumors.

American surgeons doing postgraduate work in Europe became impressed with the operation. They noted that mortality was lower, shorter anesthesia was necessary, shock was uncommon and bleeding was less. They also noted that bowel obstruction, paralytic ileus, vomiting and gas pains were less common and less severe. Postoperative ventral hernia and wound dehiscence was, of course, unknown.<sup>2</sup>

In the early 1930's an enthusiastic Viennese gynecologist, Dr. Ervin von Graff, came to Iowa. He became a member of the Department of Obstetrics and Gynecology at the State University. Largely through his influence, interest in the operation was stimulated in Iowa.

During the past 10 or 15 years, interest in the vaginal approach to pelvic pathology has increased. Stuart Abel<sup>3</sup> reports that vaginal hysterectomy has increased at Passavant Memorial Hospital, Chicago, from 21 per cent of all hysterectomies in



1935 to 41 per cent in 1950. He believes this trend is the result of two influences: the belief that this procedure is less profoundly upsetting to the patient than abdominal section and is less frequently followed by serious postoperative sequelae, and the concept that it is the procedure of choice in conjunction with vaginal plastic operations.<sup>3</sup>

Vaginal hysterectomy is the procedure of choice in conjunction with vaginal plastic operations, for three reasons:

(1) It is less hazardous. There are fewer adhesions, fewer gas pains, less intestinal obstruction, paralytic ileus, etc., and less peritonitis. It permits early ambulation, with less tendency to thrombo-embolic phenomena and respiratory infections.<sup>3</sup>

(2) It is a complete operation. The removal of the whole uterus insures against further difficulties, such as fibroids, cervicitis or malignant disease of cervix and corpus.

(3) A better, stronger and more lasting repair can be accomplished. The principle of interposition in the Watkins operation was a good one, but in the light of present advances is not necessary. By interposing the stumps of the round ligament and broad ligament under the repaired pubocervical fascia and suturing the vaginal mucosa over these stumps, the same effect is obtained. An effective sling to support the bladder is produced which, with the support of the repaired pubocervical fascia, is quite sufficient in most cases. Occasional cases might require the Marshall-Marchetti operation, if stress incontinence was a prominent symptom.

Having mentioned the advantages of the operation, we should like to point out the disadvantages.

(1) It is necessarily a sterilizing operation and should not be done on patients desiring more children.

(2) Some patients object to the cessation of menses, believing that menstruation is in some way beneficial to their health. TeLinde does not think this is important, but does advise the Manchester operation if the patient is reluctant about losing the function of menstruation.<sup>4</sup>

(3) Some patients may believe that the loss of the uterus, the loss of procreative ability and the absence of menses will alter their gratification in the sexual act. This is not so. According to Tyrone and Weed, there is no evidence to postulate that a uterine-hormonal relationship and hysterectomy affects the sexual act, if it was normal before the operation.<sup>5</sup> The sexual act and all benefits derived therefrom are in the realm of psychology.

We personally believe that the one function of the uterus is procreation, and that it is a liability rather than an asset the rest of the woman's life, from the termination of the last delivery. Other than in procreation, the workings of the uterus are troublesome, painful and often dangerous. I cannot think of one good reason for leaving it in

when a patient is being subjected to an extensive repair operation for prolapse, providing she is not desirous of more children or is not so old and feeble that a LeFort operation is indicated.

TeLinde considers the Manchester operation disadvantageous, in that it saves the body of the uterus. He dislikes to find occasional fibroids, functional bleeding or carcinoma of the endometrium in a patient on whom he has performed the Manchester operation.<sup>4</sup>

One should not lose sight of the fact that indication is the most important consideration relating to surgery. Adequate indications are paramount in the consideration of any operation. Is there a need for the operation? Will the patient be benefited? Are the benefits of operation in proper ratio to the risk?

In our series of hysterectomies we have found, first, the need for the operation; second, that the benefits have been great, and third, that the risk has been slight.

Patients presenting themselves with uterine prolapse may be classified into three groups, according to Danforth.

*Group 1.* Cases in which the cervix comes easily to the introitus with slight traction.

*Group 2.* Cases in which the cervix emerged from the introitus not more than two inches.

*Group 3.* Cases in which the cervix came out farther, more than two inches, or its entire length.<sup>6</sup>

In reviewing the records of 131 cases, operated on from September 1945 to September 1951, we were able to classify 47 cases under group 1, 57 cases in group 2 and 25 cases in group 3. We were unable to classify two cases because the degree of descent was not noted in the records.

Thirty-two uteri showed fibroid tumors. An associated functional bleeding was noted in 56 cases; 44 uteri showed chronic cervicitis, and two cases presented adenomyosis.

Our patients complained of the usual symptoms commonly noted in the prolapse syndrome.<sup>8</sup> These include: (1) A bearing down or "falling out" sensation; sensations of pressure or of ballooning or straining; soreness and pulling sensations of the lower abdomen. (2) Pain in the lower abdomen and perineum, especially just above the rectum. Pain on sitting down, due to the cervix protruding and the uterine body lying low in the vagina. Danforth believes that some of the discomfort low in the pelvis is due to varicose veins in the broad ligament and that part of the relief which follows vaginal hysterectomy is due to its disposing of these varicosities.<sup>7</sup> (3) Urinary symptoms of frequency, urgency, nocturia, pain and burning on urination, difficulty in starting the stream and incompletely emptying the bladder and, in some patients, urinal incontinence. (4) Constipation in some cases due to large rectocele. (5) Vaginal discharge due to associated chronic cervicitis or, as we found in one case, due to trichomonas vaginitis.

In studying the records in our series we found

weight sensation or the bearing down, "falling out" feeling in 101 cases out of 131.

We found pain in the lower abdomen and pelvis in 82 cases.

We found urinary tract symptoms in 62 cases and constipation in 68.

Eighty-two patients complained of something protruding from the vagina.

Many complained of nervousness, fatigue and menstrual disorders.

Physicians should be careful in evaluating the common symptom of backache. Some of our patients volunteered the information on the questionnaires that backache was cured or relieved, but we are careful to explain that they may still have backache after the operation.

To ascertain the degree to which our 131 patients had been benefited, we sent each one a questionnaire with five questions and space for remarks.

1. Have the results of the operation been satisfactory?

2. Have you suffered from bearing down pains in the lower abdomen?

3. Have you noticed anything protruding from the vagina?

4. Have you had any urinary trouble?

5. Have you been constipated?

We received 112 replies. All but three stated that the results were satisfactory. Two patients did not answer the questions; ten patients still had bearing down pain; three noted something protruding from the vagina; six still had some form of urinary complaint, and 21 complained of constipation. Since 68 patients complained of constipation before operation, we were successful in little more than two-thirds of the cases. This was disappointing, but one must remember that not all constipation is due to rectocele. To repair a large rectocele would help but not necessarily cure a patient with an atonic or spastic colon.

The results of the study in all other respects have been gratifying. We believe the benefits have been great. Since we have had no mortality and no appreciable morbidity, we feel that the risk has not been great.

Two patients developed pelvic abscesses which necessitated drainage. Following drainage, there were no serious sequelae. Since we have been draining the upper angle with a penrose drain we have had no more abscesses.

There have been no urinary fistulae and no fecal fistulae in this series. We have entered the bladder on two occasions, but the accident was noted immediately and the defect repaired with no ill effects. As far as we know, we have never tied off or injured a ureter. We mention this to further point out that the risk has not been great.

#### CONCLUSIONS

In a small series of 131 cases of uterine prolapse treated by vaginal hysterectomy, the end

results have been good. The benefits to the patients have been great. The operative risk and the danger of disabling, troublesome fistulae have been slight.

#### BIBLIOGRAPHY

1. Allen, E.: Role of vaginal hysterectomy in gynecology. *Trans. Internat. and Fourth Am. Cong. on Obst. & Gynec.* (1950), **61A**:191-193, 1951.
2. Heaney, N. S.: Vaginal hysterectomy. *Surg., Gynec. & Obst.*, **89**:94-95 (July) 1949.
3. Abel, S.: Re-evaluation of common uterine operations. *J.A.M.A.*, **148**:1111-1115 (March 29) 1952.
4. Te Linde, R. W.: Flexibility of thought in the treatment of prolapse of the uterus. *Trans. Internat. and Fourth Am. Cong. on Obst. & Gynec.*, **61A**:198-205, 1951.
5. Tyrone, C. H. and Weed, J. C.: Hysterectomy. A personal experience with two thousand consecutive cases in private practice. Selected writings by the staff members of the Ochsner Clinic, **10**:47-57 (June 30) 1951.
6. Danforth, W. C.: Vaginal hysterectomy in the management of descensus uteri. *Quart. Rev. Obst. & Gynec.*, **3**:594 (January) 1946.
7. Danforth, W. C.: Place of vaginal hysterectomy in present-day gynecology. *Am. J. Obst. & Gynec.*, **36**:787-797 (November) 1938.
8. Austin, R. C.: Treatment of uterine prolapse and herniations into vaginal vault by "composite" procedure. *Surg., Gynec. & Obst.*, **83**:725-736 (December) 1946.

#### THE MIDFORCEPS OPERATION

ETHEL S. DANA, M.D.

LOS GATOS, CALIF.

THE HISTORY of obstetrics may be said to begin with the introduction of the obstetrical forceps. This instrument alone led to the acceptance of men in the delivery room, to the respectability of the practice of midwifery and to the recognition of obstetrics as a part of medicine. The forceps, designed for use on the living mother and child without destruction of either, was invented in about 1600 by Peter Chamberlen the Elder. It was maintained as a family secret for 100 years, through three generations of Chamberlen "male midwives." Its first recorded use was in 1728 by William Giffard. The story of the Chamberlen secret is a delightful bit of medical history.

The first forceps were characterized by absence of a pelvic curve, short shanks and English lock. Smellie and Levret both introduced the pelvic curve. The Smellie type of forceps evolved into the Simpson which we know today, and the Levret evolved into the Tarnier, which is still used in some places. Both of these fathers of obstetrics emphasized, 200 years ago, the importance of knowledge of the pelvic architecture and the mechanism of labor in connection with the use of forceps. Since that time we have received many great contributions to the successful use of forceps, among which are the invention of the principle of axis traction by Tarnier, the Kielland and Barton types of forceps and the classification of pelvic architecture by Caldwell and Molloy. The development of anesthesia, blood transfusion, aseptic technic and antibiotic therapy have all influenced the indications for forceps, which change somewhat from time to time.

We have recently noted suggestions in obstetrical literature and in practice that the midforceps operation might well be discarded entirely, in



favor of cesarean section. The feeling is, that with the greatly increased safety of cesarean section, the advantages of midforceps delivery have been outmoded. This is a subject which must be given serious consideration by the obstetrician.

First, we must remember that there is a great variation in the dangers of midforceps operations. There are few physicians who would not prefer to do a cesarean section to a difficult midforceps delivery, and probably no one who has performed an easy midforceps delivery was not glad that he did so.

Therefore, the problem resolves itself into that of choosing the easy and eliminating the difficult cases for midforceps delivery, rather than condemning the operation entirely.

To make matters more complicated, not only the value but the very definition of the term midforceps is being revised. The original classification of forceps was threefold: high, low and mid. The midforceps included those cases where the forceps were applied to the head when the biparietal diameter had entered the pelvic inlet but had not yet passed the ischial spines. More recently, the term midforceps is used to apply until the vertex has completed rotation to the direct anteroposterior position and until the skull is on the perineum. This includes a large number of cases in the midforceps group which were formerly classed as low forceps—that is, those cases in which the hazard of bony obstruction is passed but in which the mechanism of labor has not been spontaneously completed. That these cases are hardly worthy of the term, midforceps, yet that they are not low forceps in the fullest sense of the word, has long been recognized. Substitute expressions such as “low-mid forceps,” “high-low forceps” and “outlet forceps” have developed. If this group of cases is to be included in statistical studies of the midforceps operation, we may anticipate a rapid improvement in the results of the procedure. The term “low-mid forceps” is a reasonable one. It segregates the hybrid cases into a category of their own where they would not necessarily alter the reputation of the true midforceps operation and, at the same time, would restrain those who are permitted to perform only the low forceps procedure from attempting to pull the head into the low forceps station. To those whose operative permission is limited, this new definition is a safeguard and not a hardship. After all, if the vertex really reaches the low-mid station, it will almost surely continue to rotate to the true low station. Therefore, the unqualified man will not lose any cases. If he is prevented from applying forceps except to the direct anteroposterior position of the vertex, he will surely eliminate the brow mastoid application from his repertoire. Many times, the brow-mastoid application of the forceps has converted an easy job into a tragedy.

The chief reason for this re-classification of

forceps operations is that the methods used for determining the station of the head are not infallible. The completion of the mechanism of rotation, with the skull on the perineum, is certainly an unequivocal and reliable sign that the vertex is past all bony obstruction. At any other point, the exact determination of station is subject to error. The classical method of relating the lowest portion of the head to the degree of engagement of the biparietal diameter is subject to error, due to manual judgement of the lowest level of the presenting vertex and due to molding of the head. The most accurate determination of the degree of engagement in the midpelvis is by x-ray, especially the lateral pelvic view.

In this discussion we shall limit our attention to the true midforceps cases and exclude the new “low-mid forceps” group. I would not use the term “high-mid forceps” to contrast with the “low” group, as someone would surely report me as advocating high forceps.

The factors which make for a safe midforceps delivery are to a certain degree under the control of the obstetrician. We may begin with prenatal care. The maintenance of good health in the patient and winning her confidence will mean that she will be able and willing to cooperate during labor. This one factor of confident cooperation may very well decide the outcome of the case. The prenatal period offers an opportunity for preparation for any type of delivery. Determination of the patient's blood type and Rh factor during the early part of pregnancy are assumed. Unfortunately, this is not by any means a universal practice. The ready availability of blood is most certainly one of the major contributions to the cesarean operation. The midforceps operation is frequently slighted in this respect and, consequently, its reputation has suffered. The third important objective of good prenatal care is careful study of the pelvis. It is my practice to perform internal pelvimetry at about the twenty-eighth week, as the tissues are soft at this time, and a better examination can be obtained with less discomfort to the patient. I still take the external measurements, but only because the patients seem to expect it. During the last month of pregnancy I make a sterile vaginal examination each week in order to observe the condition of the cervix. At these times I also review the pelvic architecture and observe the cephalopelvic relationship. Careful study of the pelvis is important, not only in borderline cases, but also in the obviously good pelvis. It is necessary to be *very* confident that the pelvis is a good one before deciding on a midforceps operation. The use of x-ray pelvimetry and cephalometry near term are, of course, a valuable aid. However, the final decision rests with the obstetrician, not with the x-ray findings.

The management of labor is the next phase in which the obstetrician may influence the type of delivery. Here he must deal with the problems



of the character of labor, the position and attitude of the presenting part, the state of the membranes and cervix, the condition of the baby and the mechanism of labor which will result from these factors in a given pelvis. He must exercise judgement in the use of the common medications of labor—strong or mild sedation, or pituitrin. He must decide whether or not membranes should be ruptured. He must consider the use of spinal anesthesia to encourage cervical dilatation. He must determine whether a correction of malposition during labor would be practical and helpful. Frequently simple flexion of the vertex with the use of an abdominal binder will suffice to bring about a normal mechanism of labor.

The wise use of prophylactic antibiotics during labor will improve the result of any type of delivery and will permit safe cesarean section after labor, if necessary. The maintenance of good fluid balance by intravenous infusions will keep a patient in good condition for any type of outcome of labor. The avoidance of food during labor is a wise precaution.

When full dilatation is reached, the picture may change very rapidly. Constant observation is important. It is wise to withhold general anesthesia until the type of delivery is certain. It is in the stage of "working with" the patient that we have the greatest opportunity to make an easy delivery out of a hard one. We must also be care-

ful not to do the opposite. Occasionally manual correction of malpositions can be accomplished at this time, and with a few expulsive efforts, a midforceps can be converted to low.

The decision to perform a midforceps operation must be based on the conviction that it can be safely performed by the specific obstetrician. This decision must summarize the condition of the mother and baby, the cephalopelvic relationship and the mechanism of delivery—assuming, of course, that the usual conditions for forceps are fulfilled. Many an easy midforceps is performed because of maternal disease, such as heart disease, in order to eliminate the strain of the second stage. In this category, the indication is medical rather than obstetrical. Many a disastrous midforceps is performed because of fetal distress. One must think twice before attempting to benefit a distressed baby by such a procedure. Some obstetrical texts admit the performance of midforceps delivery for the so-called "minor degrees of disproportion." This type of indication is apt to lead to a difficult midforceps. It is undoubtedly becoming less acceptable. There should be no question of the cephalopelvic relationship if one is seeking the easy category of midforceps delivery. This leaves the chief obstetrical indication for the operation as faulty mechanism of labor. These cases are quite frequent and often occur where the pelvis is excellent. Of course, the mechanism of

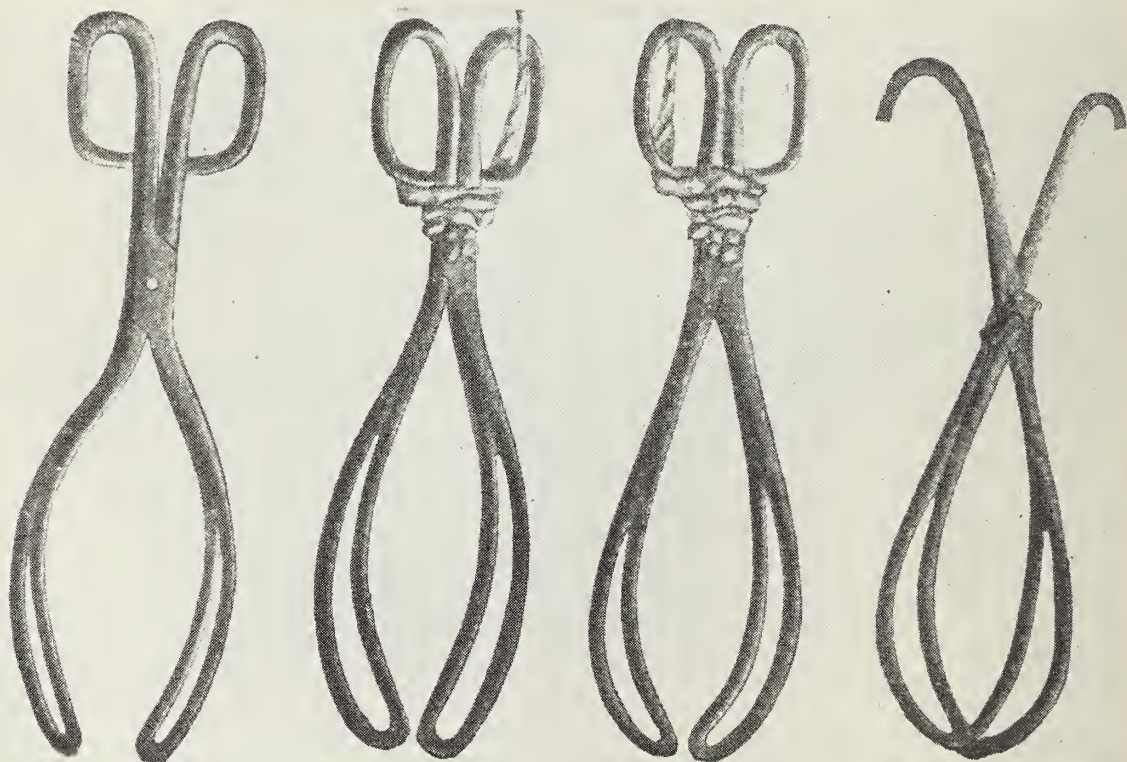


Figure 1



labor cannot be dissociated from the pelvic architecture. A bad mechanism in a gynecoid pelvis may be the necessary and best one in a flat, android or anthropoid pelvis. One must be sure that correction of the malposition will result in a good mechanism for the given pelvis, and thus, in the absence of disproportion, an easy delivery.

The selection of the forceps will depend upon the conditions to be met with as well as the training of the operator. In some teaching hospitals the philosophy is held that one should become thoroughly proficient in the use of one or two instruments and use these for all conditions. This is probably a sound philosophy for those who will not be called upon to use forceps often. Those who intend to do major obstetrics are obliged to prepare themselves to deal with the more delicate and intricate mechanics of forceps deliveries.

The varieties of forceps which exist are quite numerous. A few which have stood the test of time will serve to illustrate the characteristics of each type. Forceps serve different specific purposes, including (1) traction, (2) rotation, (3) flexion and (4) compression. The latter may seem quite shocking, but it is perfectly true that forceps frequently and sometimes deliberately accomplish compression of the fetal head. Recognition of this fact should make us more gentle and more careful in the application of steel to the unborn skull. Compression of the fetal skull, if accomplished slowly and in the proper diameters, does not need to produce damage.

The parts of the obstetrical forceps are the blades, the shanks, the locks and the handles. Some have traction bars which attach at varying points, others have "built in" axis traction and many have no axis traction at all.

The blades present cephalic and pelvic curves which vary with each type. The shanks are open or closed. The locks are English, French or sliding. The handles provide balance for each instrument.

The blade is the most important single part of the forceps. This is applied directly to the head within the pelvis. Its design determines its usefulness in various situations.

Figure 1 shows the original Chamberlen forceps. The blade has a cephalic curve and no pelvic curve. The shanks are closed and the lock is English in type. I do not believe anyone would use these forceps nowadays for any purpose. They would be extremely dangerous to both mother and child under the best of circumstances. However, it is the blade alone which disqualifies them.

Compared to the Chamberlen, the early French Tarnier forceps is quite a sophisticated instrument. Its blade has a pelvic curve, slight but quite definite. The cephalic curve resembles that of a cranioclast. As a whole, the blade is dangerous, although quite usable. The shanks are semi-closed. The French lock is a bit unwieldy. The one great feature and only good point of this forceps is that it has the most perfect type of axis traction attach-

ment ever devised. The traction rods attach directly to the heels of the blades. The Tarnier forceps, although generally classed as a museum piece, have been used by many obstetricians.

The Simpson (fig. 2) is one of the two widely

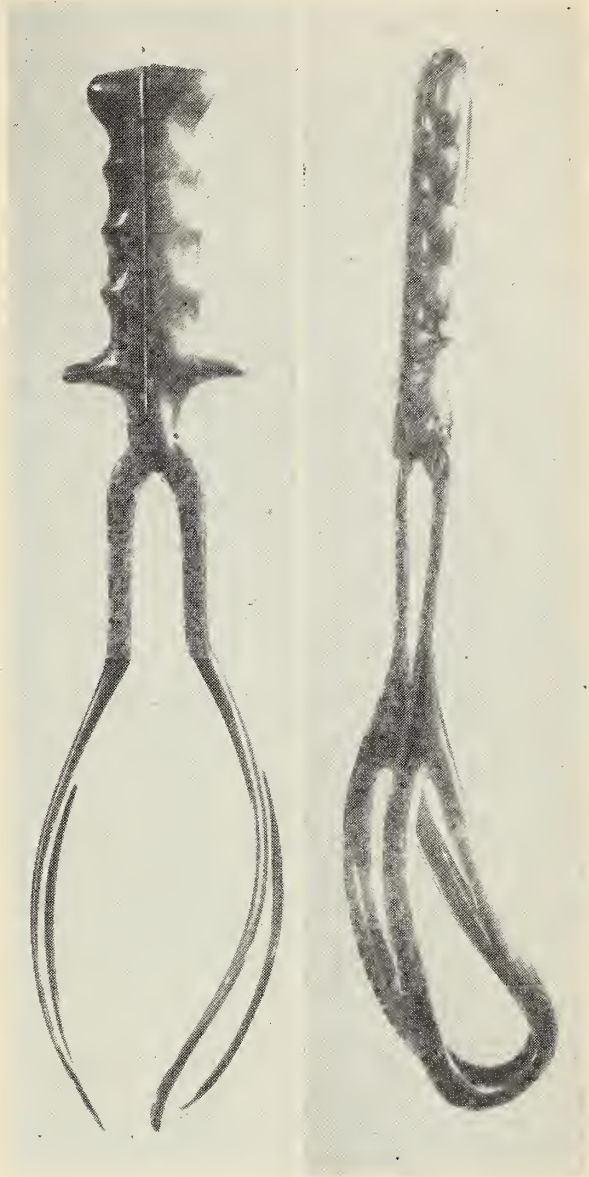


Figure 2

used contemporary forceps. Its long, shallow cephalic curve, however, is not nearly so flat as that of the Tarnier. This shallow cephalic curve, combined with an adequate biparietal diameter, is made possible by the open shanks. Because the shanks are rather hard on the perineum, the Simpson forceps is usually reserved for the true midforceps delivery rather than for the lower varieties. The pelvic curve of the Simpson forceps is a moderate classical one. Instruments of the Simpson family are best suited to long molded

heads in the anterior positions. They are not easily maneuverable for application to other positions. A Scotch variation of the Simpson instrument is the Haig-Ferguson forceps. It combines the features of the Simpson blade with an axis traction rod attached to the shanks.

The Dewees forceps has a Simpson blade with

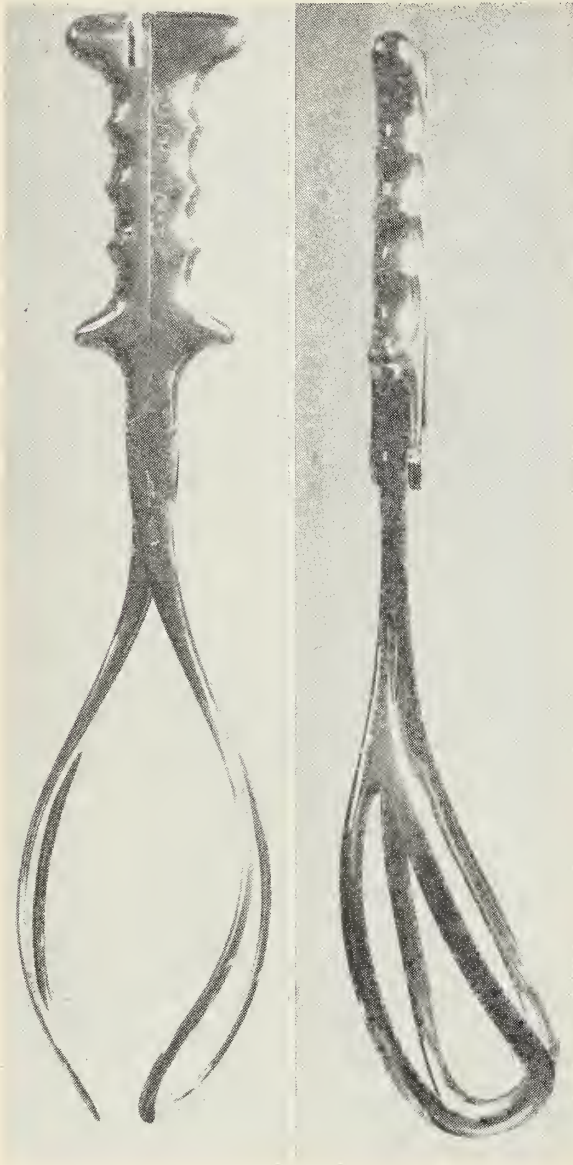


Figure 3

a rather intricate handle mechanism. Although cumbersome in application, it is excellent for axis traction.

The Piper forceps is a simple modification of the Simpson blade. It is designed for use on the after-coming head of a breech delivery.

The Elliot forceps (fig. 3) is the other important type of classical forceps. It also has many off-spring. In contrast to the Simpson, the Elliot

blade presents a rather sharp cephalic and pelvic curve and closed shanks. It will leave rather deep toe marks on a long, molded vertex. It is indicated for the anterior positions of a round, unmolded vertex.

A rather controversial child of the Elliot forceps is the Bailey-Williamson. This instrument has a slightly sharper cephalic and pelvic curve than even the Elliot, and a Bill handle for axis traction. It has proven its value in many situations. Although not necessarily the best forceps for use in transverse and posterior positions, it is the only classical blade which can be applied directly to a posterior vertex with any ease at all. The sharp curves give it a great maneuverability in clearing corners in the pelvis. Those who condemn the instrument are those who have not used it extensively. They also condemn the Elliot forceps.

Another variety of the Elliot family is the so-called "short" forceps. There are various models of this. They are useful for true low forceps and cesarean section.

The different forceps described above have one feature in common, an anteriorly directed pelvic curve which varies only in degree and curvature. This is the characteristic of the classical obstetric forceps. We now present the two important non-classical, or special forceps.

The Kielland instrument is about 35 years old. Although it is quite a dangerous instrument, it has obtained wide recognition. It has a large cephalic curve, closed shanks and a sliding lock. The most interesting feature is the posteriorly directed pelvic curve. The instrument was designed specifically for use on the posterior vertex. It is also useful in face presentations. The construction of the blade permits application of the anterior blade by sliding it under the symphysis into the uterus and turning it to a perfect application without the wandering maneuver so difficult in posterior positions. It should be applied to the head in midpelvis and not in the lower stations. Axis traction is "built into" this instrument. In contrast to the classical forceps, traction is applied in the direction of the handles, however they fall, and never in the manner of Saxtorph. The Kiellands are not designed for delivery but for rotation. It is possible to deliver with the Kielland blades, by a rather complicated maneuver, if we remember never to raise the handles above the horizontal. Because of the reverse pelvic curve, this error frequently leads to a lacerated rectum. However, it is much simpler to switch to a classical type of forceps once the head is on the perineum.

The Barton forceps are of more recent vintage and are less widely used. They are designed to deal with transverse arrests. The hinged anterior blade permits easy wandering to perfect application. The construction of the forceps causes the pelvic and cephalic curves to coincide. The traction bar is the most important feature. Without this, improper traction and fetal damage are pos-



sible. The handles are used for rotation but never for traction. It is almost impossible to apply the Barton forceps incorrectly to the head in transverse arrest. The slide lock can accommodate asynclitism, often found in the transverse arrest. The vertex can be brought to the perineum in the transverse position if that is indicated, as in the flat pelvis. With proper use, damage to both mother and child is extremely rare. This is the only forceps which can be successfully used in the case of an extended asynclitic transverse arrest in a flat pelvis. It can also be put to good use in delivering a posterior vertex which can be manually rotated to the transverse, if this occurs in a gynecoid pelvis. In the android or anthropoid types of pelvis, the Kielland is usually better.

When selecting forceps, one must make the greatest possible use of the advantages offered by the different varieties. In the true midforceps operation, the advantage of axis traction attachments should always be used, regardless of the type of blade. Axis traction should also be more widely used in the low varieties of forceps because it is always easier on the mother as well as the obstetrician. The instrument chosen will depend on whether the problem is primarily one of rotation or of flexion and traction. One should not hesitate to use more than one instrument, if such is indicated, or if the wrong one is chosen at first. One should be willing to spend considerable time in the application of the blades and should settle for nothing less than perfect application in the true midforceps operation. The patient should not be kept under deep anesthesia for too long a time. If the patient has been well handled prior to the application of forceps, and if it is found that an error in judgment has been made, one should resort to cesarean section after attempted forceps rather than persist in error.

#### CONCLUSION

If those who perform midforceps operations made good use of every medical and mechanical aid which is available to improve their judgment and their performance, we should see that the safety of the procedure is greater than that of cesarean section. Where this is not the case, we will find that the operation has not been accorded the serious consideration that it requires.

#### NEW FORMAT ON ELI LILLY PUBLICATION

Eli Lilly and Company has prepared an entirely new format for its house publication, *The Physician's Bulletin*. The new "PB" is designed to give information in a concise form to the 150,000 doctors who receive it.

PB has been reduced from standard to pocket size and increased from 24 to 32 pages. Full color illustrations are used throughout. Formerly published six times a year, the magazine in its new format will appear monthly except for August and December.

#### State University of Iowa College of Medicine

#### CLINICAL PATHOLOGIC CONFERENCE November 19, 1952

#### SUMMARY OF CLINICAL RECORD

THIS 55 YEAR OLD farmer had been well until he first experienced pain in the right shoulder eight months before admission to the University Hospitals. At that time he had been "kicked" by the tractor crank while cranking the vehicle. His right arm was stiff when the crank caught and the patient was lifted off his feet. Pain was felt in the shoulder whenever it was excessively exercised. The right shoulder appeared to be weaker than normal and would "catch" at 90° of abduction. This produced pain severe enough to cause a momentary blackout. The many physicians whom the patient consulted found normal roentgenograms and no physical abnormalities. Two months after the onset of symptoms, x-ray therapy was given for bursitis. Three months later, because of lack of physical findings, a diagnosis of psychoneurosis with superimposed narcotic addiction was made. The patient was hospitalized elsewhere and given a course of electric shock therapy five months after the onset of his symptoms.

The patient continued to have pain and increasing limitation of motion of the shoulder. One month before examination here, the right shoulder began to swell. X-rays at that time showed destructive process in the right coracoid-glenoid-acromial region of the scapula and the upper end of the humerus. For 15 days the patient received massive doses of antibiotic and chemotherapeutic drugs. These did not effect a change in the subjective or objective findings. During this period a low grade fever up to 100° F.; normal blood count, normal urinalysis, negative Wassermann, negative brucellosis agglutinations and a negative tuberculin skin test (O.T.) were noted.

Another x-ray examination about one month later showed the destructive process to be worse than before the above therapy was given. The patient was referred to the University Hospitals with clinical impression of an infectious process involving the right shoulder.

On admission to the Department of Orthopedics, he gave the additional complaint of pain radiating into the right arm and right side of the neck. For several weeks prior to admission, numbness and paresthesias along the ulnar side of the hand had been noted. The past medical history and family history were not related to the present illness.

Physical examination revealed a patient in considerable pain. The blood pressure was 146/92 mm. Hg. The right shoulder was markedly restricted in motion to only a few degrees. Swelling and tenderness were present, particularly over the region of the right acromion. Atrophy of the shoulder, arm and chest muscles was evident. The

scapular landmarks were intact. Movement of the shoulder produced excruciating pain. Motor power of the extremities was impaired. Sensory examinations were not recorded.

Laboratory studies were: hemoglobin 13 Gm. per 100 ml.; red blood cells 4,620,000 per cu. mm.; white blood cells 6,200,000 per cu. mm.; bleeding time four minutes, and clotting time three minutes. The urine on several examinations during the week after admission showed negative chemical examinations and only an occasional white blood cell per high power microscopic field. X-ray films showed a large quantity of newly-formed bone extending in a sunburst pattern over the normal borders of the scapula. The chest x-ray film was normal.

On the basis of the biopsy findings a right thorascapular amputation was performed one week after admission. A large mass involving the body of the scapula made exposure to the major neurovascular bundle very difficult. On sectioning the trapezius muscle from its acromial attachment, liquefied material was encountered. The patient received 2,000 ml. of blood during the operation. Twenty-four hours later, the hemoglobin was 10 Gm. per 100 ml., the red blood cell count was 3,520,000 per cu. mm. and the white blood cell count was 7,000 per cu. mm. On the fourth postoperative day 500 ml. of whole blood was given. One day later the hemoglobin was 11.3 Gm. per 100 ml. and the red blood cell count was 4,370,000 per cu. mm. The patient's wound healed per primum, and he was discharged from the hospital.

The patient experienced marked relief of pain for a month; then the pain in the right lateral chest wall reappeared. Within three weeks the pain became intense enough to require hospitalization near his home. He remained there until readmission three and one half months after his previous discharge from the University Hospitals.

During the previous two months, the patient had required increasing doses of narcotics to control pain. Because of dyspnea, frequent thoracenteses had been performed by his physician. The last aspiration had been bloody. The patient also complained of pain in the anterior and lateral abdominal wall and in the right chest posteriorly. Anorexia and abdominal bloating were also noted. The physical examination revealed an exceedingly apprehensive patient in extreme pain. Respirations were 30 per minute and extremely shallow. A swelling and fullness was present in the soft tissue beneath the right thoracic incision which extended downward over the right abdominal wall. Moist rales were noted in the left lung base. On the right, dullness was found to a level half-way between the nipple line and the clavicle, with absence of breath sounds in that area. Moderate pitting edema of both lower extremities, distal to the mid-thigh, was present. The urine was essentially normal. Wasserman and Kline tests were negative.

The chest film demonstrated a hydropneumothorax on the right. The visualized portion of the left lung appeared clear. The next day, thoracentesis at the level of T-6 in the posterolateral area was productive of 500 ml. of cloudy straw-colored fluid and a considerable amount of air.

Because of the severe pain, barely relieved by 200 mg. of demerol every two hours, a 95 per cent alcohol spinal injection at the level of D-9 was done, without effect. Xylocaine injection of the area of tenderness gave only slight relief. Procaine, 300 mg. intravenously, also gave only mild relief. The patient was maintained on constant nasal oxygen because of dyspnea. The neurology consultant did not think a supraorbital prefrontal lobotomy was indicated in view of the patient's progressive downhill course.

During the last three weeks of life, increasing edema of the lower extremities, scrotum and lower trunk occurred. The dyspnea, apprehensiveness and pain, requiring large doses of narcotics, persisted. The patient died 13 months after the onset of symptoms and six months following a right forequarter amputation.

#### CLINICAL DISCUSSION

*Dr. Michael Bonfiglio, Orthopedic Surgery:* The patient under discussion today, a 55 year old farmer, had been well about seven months prior to his admission to the University Hospitals. At that time he had been kicked by the crank of his tractor so that his right arm was stiff and painful. From that day forth, he experienced pain in the right shoulder intermittently whenever he attempted to abduct the arm beyond a right angle. He continued to work during this time, so it was not totally incapacitating.

He consulted many physicians in the months following the onset of this pain. About six weeks after the onset, roentgenograms made of his right shoulder were considered as normal although the roentgenologist noted a density difference in the region of the coracoid process (fig. 1A). A subsequent normal shoulder x-ray, the opposite shoulder, is shown for comparison (fig. 1B).

The patient was subsequently seen by other physicians, who also made x-rays (fig. 1C), and who also found no evidence of organic disease. His pain, deep, boring in type, was so severe that narcotics were required to control it. At one time, as the protocol states, he was treated for bursitis of the shoulder and was given a course of x-ray therapy. The physicians who examined him five months after the onset felt that his disease was of psychogenic origin. As a result, he was given electric shock therapy. This did partially control his narcotic addiction.

Roentgenograms, made shortly after the completion of the shock therapy, show areas of increased density in the coracoid process, neck of the scapula and a few in the body of the scapula. The roentgenologist could not make a conclusive diagnosis and advised further investigation. That



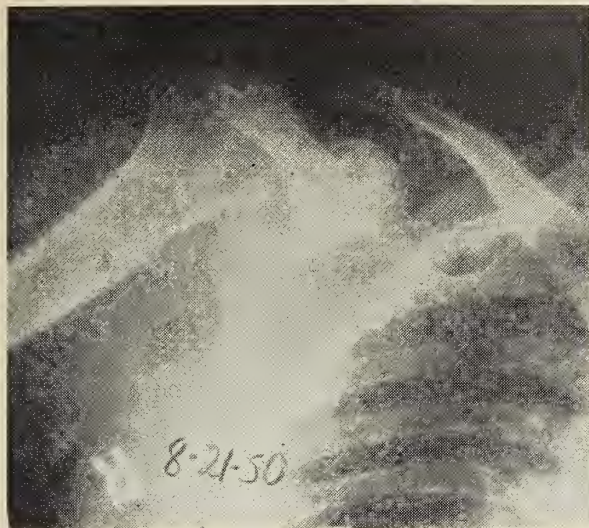


Figure 1-A. Six weeks after onset of symptoms.

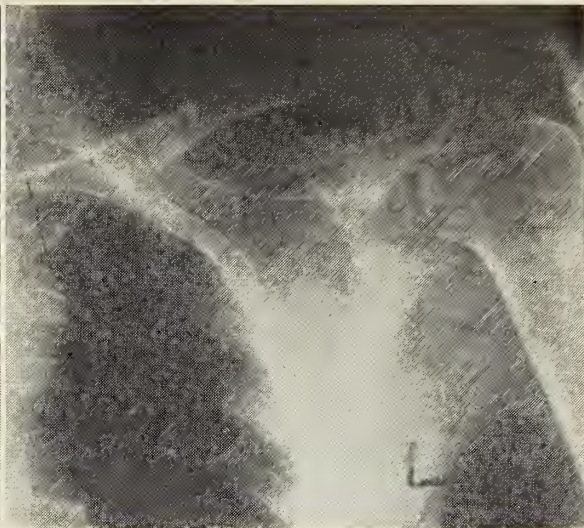


Figure 1-B. Normal Shoulder.

was done, but prior to further investigation, as you have read, the patient received a course of antibiotic therapy which lasted about two weeks.

Because of the failure of the antibiotic therapy, he was sent here for further investigation. The pre-admission diagnosis was thought to be an infectious process about the shoulder.

The next slide will show you the appearance of the patient at the time of admission. I don't think there is much doubt that this man was in excruciating pain at the time he entered. It was difficult for him to stand comfortably. The right shoulder drooped somewhat as compared with the left. There was some loss of the bony landmarks. The clavicle was not as prominent on the right. By this time the patient began to have numbness and paresthesia along the ulnar aspect of the right arm and swelling of the arm and right shoulder.

A roentgenogram of the right shoulder was made at this hospital (fig. 1D). Dr. Forbes will describe that to you.

*Dr. Stephen A. Forbes, Radiology:* A film of the right shoulder girdle was taken on the patient's admission, approximately one month after the one you have just seen. It shows there had been considerable change in extent and nature of involvement since that time. The linear depositions of new bone can now be seen perpendicular to the cortex of the scapula over most of its surface. The proximal part of the humerus also shows similar change. The roentgenogram interpretation was osteogenic sarcoma.

*Dr. Bonfiglio:* Prior to the thoracoscaphular amputation, a biopsy was done. The next slide shows the gross appearance of the extremity; the posterior view shows swelling of the posterior muscles.

The next slide shows the anterior appearance of the subscapularis muscle which was expanded by a hard mass. The vessels and brachial plexus were surrounded by masses of bony hard tissue.

The most surprising thing, and to be expected,

too, was the marked relief of pain that this patient had immediately after the forequarter amputation. His wound healed without incident. Relief of pain persisted for about one month postoperatively. During the next three months, increasing dyspnea appeared and he developed a right hydrothorax which required severe thoracenteses.

On arrival here his symptoms were those of a man in severe respiratory distress and marked pain. He had not been able to eat during the past six weeks. He was exceedingly apprehensive. There was swelling in the soft tissue area about the previous surgical wound and tender, painful masses were present in the chest wall.

The condition from then on was progressively worse. It was difficult to control the patient's pain. Doses of 200 mg. of demerol every two hours gave minimal relief. Heroin therapy brought little relief. At one time, 300 cc. of xylocaine intravenously gave him only slight relief for about two days but soon he was back on large doses of narcotics. An injection of alcohol into the intercostal nerves and an intrathecal injection of alcohol gave only slight relief.

In spite of all attempts, we were unable to control his pain. A neurology consultant found the patient in such poor condition that it was thought inadvisable to perform a prefrontal lobotomy.

During the last three weeks of life, the patient had increasing edema of the trunk and lower extremities and increasing dyspnea. Continuous nasal oxygen was given. The patient died 13 months after the onset of the symptoms, six months after the thoracoscaphular amputation and just six months after the diagnosis was established.

Are there any questions regarding the history? Any comments from the audience? Dr. Newman.

*Dr. Robert W. Newman, Orthopedic Surgery:* Would you please give us some of the background history?



*Dr. Bonfiglio:* Oh, yes. It is significant. Dr. Newman and I have discussed this patient at length. He had been a farmer all of his life after serving three years with the Marines. He had come to this country from Denmark as a boy. No previous



Figure 1-C. Four months after onset of symptoms.

history of any instability whatsoever, as far as his emotional life is concerned, was known. He had his own farm which he owned prior to the onset of his illness; however, by the time he arrived here he no longer owned it because he had spent so much money for his medical care that he entered as an indigent patient. The patient was married and had three children.

I was taught that the diagnosis of psychoneurosis or psychosis is based on positive findings of emotional instability. This man had none. I think it bears further discussion. I just bring that in for your thoughts in the meantime. Any further questions or comments?

*Junior Student:* Why was a prefrontal lobotomy considered at all in this case?

*Dr. Bonfiglio:* Terminally, I believe it was considered because he was so extremely apprehensive, and a supraorbital prefrontal lobotomy might have relieved his apprehension, at least over the amount of pain he was having. I do not believe there was any question that it would not wholly relieve his pain, but he would be considerably less concerned about it. That was a factor, I think, in his terminal status.

*Resident Physician:* I'd like to ask the radiologist what other lesions of bone give this appearance.

*Dr. Forbes:* This appearance is considered char-

acteristic of malignant bone neoplasm other than Ewing's tumor. In that lesion the new bone is laid down parallel to the periosteum. The periosteal reaction and subperiosteal new bone formation seen in inflammatory lesions of bone are also usually in the long axis of the shaft of a long bone or parallel to the cortex of a flat bone in contradistinction to the ray-like arrangement of new bone seen in osteogenic sarcoma.

*Dr. Bonfiglio:* Would you like to show the chest film taken at the time of his readmission, Dr. Forbes?

*Dr. Forbes:* A film of the chest, taken on readmission of the patient, shows absence of the right shoulder girdle. There is a patchy increase in density throughout the right lung field thought to be metastatic neoplasm in the lung parenchyma. A localized fluid level with air above it can be seen at the right base laterally. This is considered to represent hydropneumothorax following the thoracentesis. A film of the chest with over-penetration for rib detail shows mottled radiolucency of the right third, fourth and fifth ribs posteriorly. This could also be due to secondary neoplasm. A final film taken during the patient's terminal course shows complete opacification of the right hemithorax, probably due to an increase in both the parenchymal metastases and the right pleural fluid.

*Dr. Bonfiglio:* Dr. Carter, would you like to show the pathology slides at this time and the autopsy findings?

*Dr. John R. Carter, Pathology:* May we have the first slide, please. This is a portion of the surgical specimen which we obtained. Here you can see the head of the humerus. There is tumor in various areas of the humerus and the capsule and virtually the entire scapula is involved by

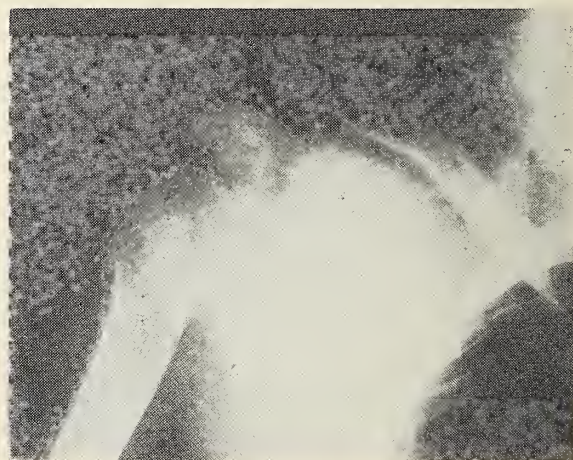


Figure 1-D. Preoperative, 7 months after onset.

neoplasm. The center of this grapefruit-sized mass was approximately in the region of the coracoid process. It is difficult now, obviously, to determine precisely where this tumor arose, but it seems from examination of the x-rays and the location



of the tumor that it was approximately in the region of the coracoid process.

This slide is an x-ray of that same specimen to show the very dense ossification and the sclerotic nature of the tumor bone that was laid down (fig. 1E).

This slide shows a side view of the patient. The entire right chest cage was virtually replaced by tumor. The intercostal muscles were completely replaced by tumor. The tumor involved all the ribs, the right leaf of the diaphragm and the upper eight thoracic vertebrae, just as though cement had actually been poured into and lined the entire thoracic cage. In places the tumor was 3 to 10 cm. thick. As a result, the right lung was completely collapsed and occupied a space about 10 cm.

This is another view, looking down on the individual. It again shows the outline on the right side of this very thick mass of osteogenic sarcoma. Here is the collapsed lung. The mediastinal structures were intact. There was no evidence of tumor. There were numerous metastatic deposits in the left lung as well as in the right. The right leaf of the diaphragm, shown here, measured approximately 5 cm. in thickness. Tumor had caused constriction of the inferior vena cava, which accounted for the edema as well as the extreme passive congestion of the spleen and the liver. There were no distant metastases.

This is a representative microscopic view of the tumor. It is an osteogenic sarcoma of the so-called osteosclerotic or osteoblastic type. Most of the tumor was of this type. You can see the tumor bone, a primary type, which in places is well ossified and in other places is poorly ossified. This was not a highly cellular anaplastic neoplasm. It was well differentiated as osteogenic sarcomas go.

Recently there has been a flurry of articles on bone marrow embolism. As you know, when bones are broken or when there has been some operative procedure involving bones, it is not at all uncommon to find fat embolism. Also there may be bone marrow embolism. Here is a vein in the lung showing good hematopoietic tissue growing within this vein. There were several areas like this and in places the marrow showed attachment to the vein's walls.

The osteogenic sarcoma involving the chest cage occurred by contiguity rather than by isolated metastatic deposits; that is, it spread in a contiguous fashion from one area to another.

I mentioned that the tumor was an osteosclerotic or osteoblastic type of osteogenic sarcoma. This is not an uncommon form, although it is probably not as common as the osteolytic varieties. Frequently these tumors are highly vascular, the so-called telangiectatic variety. In cases of osteogenic sarcoma, the prognosis does not depend too much on the histologic variety. The prognosis is poor, anyway, and it is even more common to find mix-



Figure 1-E. Roentgenogram of specimen.



tures of highly cellular anaplastic tumor tissue, large vascular areas and osteosclerotic areas.

In previous years, the terms osteochondrofibrosarcoma and similar compounded words were used quite commonly to describe the gross and histologic appearances of this type of neoplasm. This is seldom necessary now. The diagnosis usually is not too difficult to make. The compounded terms do emphasize it is not uncommon to find fibrosarcomatous areas, hemangiosarcomatous areas and chondromatous areas, all with different degrees of anaplasticity, in the same tumor. We have had a number of tumors in which the initial lesion looked like a rather typical osteogenic sarcoma and the metastases more like a chondrosarcoma. In other words, mixtures of these various mesenchymal elements do occur. This is best explained and more and more people are coming to accept the concept that these tumors are fundamentally mesoblastic tumors; mesoblastomas composed of immature fibroblastic cells that have pluripotentialities, i.e., the ability to differentiate into bone, cartilage, blood vessels, fibrous tissue, etc. In this particular case, this type of change was not particularly prominent, since most of the tumor was bone, but it is important to keep in mind that these various histologic types do occur. Are there any questions about this?

*Dr. Newman:* Might this have arisen as the result of a previous osteochondroma?

*Dr. Carter:* Osteochondromas, either of the congenital variety or of the solitary variety, can undergo a malignant change. It is not common, but when they do, they generally tend to be predominantly neoplasms. I would not say that the tumor under discussion could not have arisen from an osteochondroma. There is no way to prove it now, of course.

*Dr. Newman:* What is the relation of this to trauma?

*Dr. Carter:* Virtually all patients give a history of trauma. I do not know whether the trauma had anything to do with this case or not. It is conceivable that it did. I remember so vividly an individual I saw in the Navy who sustained an injury to his foot while wrestling with one of his buddies. Four weeks later he entered the hospital with quite a large swelling on the dorsal surface of the foot. A biopsy was taken of this mass and it showed a very definite rhabdomyosarcoma. Four months later he was dead with wide-spread metastases. Was this the result of trauma or was rhabdomyosarcoma there all the time?

#### SUMMARY OF NECROPSY FINDINGS

Nearly the entire right half of the thoracic cage and the right leaf of the diaphragm were replaced by a hard shell of osteogenic sarcoma varying from 3 to 10 cm. in thickness. The right upper extremity, scapula and distal two-thirds of the clavicle were absent (forequarter amputation). The tumor involved the upper eight thoracic vertebrae and extended to the middle of the

sternum anteriorly. The right lung was totally collapsed and was completely encased by the tumor in an area approximately 10 cm. square. The tumor had constricted the inferior vena cava with resultant passive congestion of the spleen and the liver. Numerous metastatic deposits were present in the left lung. This lung was congested and edematous. No distant metastases were encountered and the mediastinal structures were not abnormal. Death was caused by pulmonary insufficiency resulting from lesions described above.

#### NECROPSY DIAGNOSES

Osteogenic sarcoma involving the entire right thoracic cage, vertebrae, sternum, diaphragm and right lung.

Metastatic osteogenic sarcoma of the left lung.

Collapse of the right lung.

Pulmonary congestion and edema of the left lung.

Chronic passive congestion of the spleen and the liver.

Surgical absence of the right forequarter.

*Dr. Bonfiglio:* Dr. Hickey, would you discuss some experimental aspects of osteogenic sarcoma?

*Dr. Robert C. Hickey, Surgery (V.A. Hospital):* I think the question of trauma, Dr. Newman, is important here because had this man not been self employed, such a problem as he presents might come up before an adjudication board. Similar instances are seen in the courts. We are relatively isolated, in a semi-rural community; we do not see much of such litigation, but in the large industrial centers this problem comes up again and again; that is, does trauma have any relationship to neoplastic disease? The answer depends upon the specific nature of the trauma or injury.

To depart from this case for a moment, let us consider specific types of trauma. First, consider thermal injuries. A patient severely burned might later in life develop a malignant change, usually an epidermoid carcinoma in the traumatized site. This would follow more particularly if the area had not been adequately treated by skin grafting.

Presumably, actinic irradiation or sunlight presents a form of trauma. Epidermoid carcinomas of the lower lip and the face are common among sailors and farmers. Another type of injury is irradiation injury. In the cobalt mines of Saxony, Germany and in the uranium mines of Sudetenland, the miners had a high incidence of pulmonary carcinomas. A common factor was the pulmonary ingestion of radioactive materials. One of our industrial hazards of the '20s was in the luminous dial plants where the workers moistened the paint brushes between their lips and consumed radioactive materials. Some of these workers developed osteogenic sarcoma.

To turn to physical trauma, the particular problem at hand, possibly one type of proliferative change follows trauma. Operators of air hammers



may develop a Dupuytren's contracture of the hand, presumably secondary to the jarring trauma, but the very nature of the contractile shortening of the palmar fascia, its occurrence with coronary artery disease, its familial tendency and its occurrence in the feet, would make this difficult to support as evidence of trauma producing a benign growth, or even remotely, a malignant growth. To seriously consider that the physical trauma described altered the course of this man's life, we would need to know that the injured site corresponded exactly with the site of the initial tumor growth, that the injured part was healthy, that the man was injured, that a reasonable length of time had elapsed before the cancer had appeared and that the cancer was of a relatively simple type. The evidence indicates only that the man was injured about the shoulder and that he had an osteogenic sarcoma which is not a complex type of neoplasm. We are unable to go further. As it stands, it is a poor case for an etiologic traumatic relationship.

Experimentally, osteogenic sarcoma may be produced by irradiation in animals and in humans, as discussed in the luminous dial workers. Another method of producing osteogenic sarcoma is by the use of an insoluble salt of beryllium which, when injected intravenously into a specific species of rabbit, will produce a true metastasizing osteogenic sarcoma. The polycyclic hydrocarbons used as carcinogenic agents, of which methylcholanthrene is an example, will produce fibrosarcomas in mice if injected subcutaneously, or epidermoid carcinomas if painted upon the skin in a predictable fashion. We attempted sometime ago to produce osteogenic sarcomas in mice, using such a carcinogenic agent. A variety of techniques were employed, including efforts at periosteal stimulation by fracture, direct marrow implants of the carcinogen with an irritant and embryonic tissue transplants accompanied by the carcinogen. We were able to produce an abundance of neoplasms. However, none of them were identifiable as an osteogenic carcinoma.

*Dr. Bonfiglio:* I believe it is important to point out that prolonged trauma by physical agents, such as irradiation or radioactive material or the methylcholanthrenes, certainly has to have a time lapse. In the reported cases of osteogenic sarcoma developing secondary to irradiation for benign lesions, the average time was seven years. The situation of a single traumatic episode being related to the production of tumors is somewhat far-fetched and, in general, it is believed by most observers to be a matter of bringing the pre-existing lesion to the fore, letting the patient become aware of the fact that there was something there.

*Dr. Newman* will discuss the clinical aspects of it in regard to this patient and the surgical attack of osteogenic sarcomas.

*Dr. Newman:* I think this case emphatically points up the necessity of careful clinical investi-

gation. Clinical features of bone tumors, particularly malignant bone tumors, and even other bone diseases, are not of great diagnostic help to us today. They were more valuable to clinicians in former times. In earlier days the diagnoses were made on the basis of clinical features only. When those clinical manifestations were so definite that accurate diagnosis could be made, particularly of bone tumors, it was too late to do anything about them. Unfortunately today, if diagnosis is to be made before the tumor is beyond the reach of effective therapy, the clinical features are usually of little help in diagnosis. This does not imply that you should not exercise all your clinical skill to arrive at a diagnosis. Observe your patient, examine him searchingly, attentively, diligently. For this particular type of ailment, we must rely largely upon the various diagnostic aids which we have. I should say the x-ray is the most important and of greatest aid.

We do not know in accurate detail the clinical picture of this case from the beginning. We do know that the predominant symptom was pain; it overshadowed everything else. He also complained of restricted motion in his shoulder and, as has already been pointed out, he complained of a "catch" in his shoulder which at times caused him such pain that he would momentarily black out.

This case obviously presented great difficulties in diagnosis and in management. As we view it at this time, I think we are reasonably justified in arriving at the diagnosis of osteogenic sarcoma. However, when the case was first seen the clinical problem was not so simple. When we saw the patient, the diagnosis on the basis of clinical features alone could reasonably be made. Earlier this was not so. It might be well to call to your attention the fact that this man passed through some very capable hands. I took the trouble of looking up the records of many of these men. No less than five of them were Diplomates of the various American Boards. They included internists, a neurosurgeon, a psychoneurologist and general surgeons. Apparently he was given careful scrutiny. This being the case, then I should say that this patient probably presented as his sole clinical manifestation intense, uncontrollable pain.

When I first heard the history of this case, I thought immediately of an injury to the shoulder joint; more specifically, to the shoulder cuff. We have now segregated and separated some fairly definite clinical entities with respect to etiology, pathology, anatomic involvement, etc., of a so-called cervicobrachial pain syndrome, or brachial neuritis. We can pretty well determine what is the cause of the pain, but this has come about only as the result of recent developments. We do not have time to go into that, but I should like to say that if I had seen this case early, the first thing I would have thought of would have been an injury to the shoulder cuff. From the onset, apparently, his

(Continued on page 76)

# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
MISS MARY L. McCORD, Managing Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager....Des Moines  
MR. DON L. TAYLOR, Advertising Manager.....Des Moines  
MISS JOYCE MEYER, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII

FEBRUARY, 1953

No. 2

## EXECUTIVE COUNCIL'S OPINION ON PROPER BILLING OF PATIENTS

Ever since last March when the Executive Council published its statement regarding the prevailing methods of rendering medical care in Iowa and its elaboration of medical ethics, it has received many questions as to the proper method of billing patients when two or more doctors provide service. As these were being answered by the central office and by our legal counsel, it became evident that the elaboration needed clarification for those who did not participate in the study which led to its preparation.

The Executive Council has, therefore, clarified the elaboration and made it effective Feb. 1, 1953. Each member of the State Society will receive a copy of the clarification so that he may be guided in preparing his statements in the future. The clarification reads as follows:

1. When two or more doctors, actually and in person, render service to one patient, each physician may, if he so desires, render to the patient an individual bill for his individual services; or the doctors may submit one statement to the patient for the services rendered, and it should be made clear to the patient or his legal representative that this fee is to be divided in proportion to the services rendered, and the statement shall show the names of the doctors and the respective amounts to be paid each doctor. The patient's consent, either expressed or implied, should be obtained. The fees may be paid in their entirety to either physician by the patient, and the one receiving payment shall forward the other his fee. Under no circumstances shall it be considered ethical

for doctors to submit bills unless both have actually rendered service. Division of fees for referrals only shall be considered unethical.

2. In legal partnerships of doctors, or clinics of doctors or where doctors have joined together in the practice of medicine and so hold themselves out to the public and patients, where all income and expenses are a joint account or joint venture, it is ethical and legal for the members of the group to confer and care for a patient and to render one fee bill to the patient, and the income shall be divided in accordance with their contract basis or salary or percentage arrangement.

It is our belief that this clarification will result in better understanding of medical bills on the part of the public and will be welcomed by the profession because it defines proper procedure to be followed.

## AMERICAN MEDICAL ASSOCIATION RECOMMENDS UNITED STATES WITHDRAW FROM INTERNATIONAL LABOR ORGANIZATION

Many organizations and individuals in this country are greatly concerned over United States participation in the International Labor Organization, commonly called ILO. The American Bar Association, the United States Chamber of Commerce and other groups are actively interested in the subject and are currently making an effort to amend the Constitution to protect our present system for enacting legislation. A proposal for such an amendment was introduced into the U. S. Senate on Feb. 7, 1952 by Senator Bricker (S.J. Res. 130). It was endorsed by 56 other senators.

This widespread concern exists because of the danger inherent in the present method of ratifying treaties. Article VI of the U. S. Constitution provides that "All Treaties . . . shall be the supreme law of the Land . . . any Thing in the Constitution or laws of any State to the Contrary notwithstanding."

Under this article, a ratified treaty may supersede every city and county ordinance, every state constitution and every state law and federal statute on the same subject. The conventions of the ILO are similar to treaties, which by virtue of the U. S. Constitution require only a two-thirds vote of the members of the Senate present for ratification. Action by the House of Representatives is not necessary for ratification.

A procedure such as this is contrary to the tenets of democracy. Legislation which proceeds along normal channels goes to committee; hearings are held; opponents are given an opportunity to express their viewpoint and voting is carried on in both Houses of Congress.

It is interesting and may we say alarming, to note that under the rules and practices of the Senate, a single senator can legally ratify a treaty, making it binding upon the nation as the supreme law of the land. According to Mr. C. J. Stetler of the AMA staff, this was demonstrated last summer



when Senator Sparkman was presiding over the Senate with only one other senator present—Thye of Minnesota. As presiding officer, Senator Sparkman called up, without objection, a consular convention and supplementary protocol between the U. S. and Ireland, and another consular convention and protocol between the U. S. and the United Kingdom and Northern Ireland. In each instance Senator Sparkman voiced approval himself, while Senator Thye remained silent. In each instance Senator Sparkman ruled that "in the opinion of the chair, two-thirds of the senators present concurring therein, the resolution of ratification is agreed to and the convention is ratified." Thus one senator was permitted to claim the two-thirds Senate approval required under the Constitution for ratification of a treaty.

The U. S. has four representatives to the ILO, as does every participating government, regardless of the size of its country. These are appointive by the President, (?) with one supposed to represent labor, one industry and two at large. The four representatives cast their votes on each item of business but the majority vote of the four is cast as the single vote of the U. S. This means that if three vote yes and one votes no, the vote of the U. S. will be yes. There still will be but one vote. Our country with its millions of people has the same vote as one with only a few hundred thousand people.

In June, 1952 a covenant entitled "Minimum Standards of Social Security" was approved by the ILO. It is now before the U. S. Senate for ratification. This covenant envisions government benefits in nine fields of social security; and while the medical benefits in the covenant are carefully distributed through the document, when they are considered together they constitute "socialized medicine." Socialism by treaty is now a greater threat than socialism by domestic legislation, primarily because the possibility of political and economic regimentation from an external source is not widely recognized.

Since many of the nations comprising the ILO have governments of socialistic tendency, it is inevitable that many of the actions taken will be socialistic in nature. If ratification of such conventions can be done by one senator, it would seem to us imperative that the U. S. withdraw from the ILO, since ratification makes the action of the ILO supreme in the land. It abridges municipal, state and even federal law. It is doubtful whether the framers of the Constitution had that in mind.

The proposed Bricker amendment to the Constitution seems indispensable if we are to preserve the democratic processes we cherish. Support of this amendment, as well as withdrawal from the ILO, appear to be the courses which the people of our country should follow.

### THE EVOLUTION OF THE GP SPECIALISTS

In this day of medical specialization, the most belated and ignored specialty is finally coming

into its own. We do not say that this is an accomplished fact. Yet there are indications which seem to portend better things for the future.

It will be acknowledged that no single specialty board certifies a physician to treat more than 15 or 20 per cent of the complaints that drive John Q. Public to see a physician. Training for these individual specialties has been and is being improved to a state which we as Americans are justifiably proud. However, the group of doctors who see perhaps 90 per cent of the cases first and who will eventually treat up to 85 per cent of them without referral to specialists, are still undertrained or else largely trained by experience.

In former days, an intelligent boy or man in his twenties or thirties would drive the team for a doctor, do his chores, assist him with amputations and perhaps deliveries in the home before finally mustering up enough courage to hang up his shingle for private practice. Many of these were later licensed because of their long and successful practice, before the state passed statutes for the control of the practice of medicine. Most of these men have now passed to their reward. Only recently has the man who is supposed to be able to treat 85 per cent of human ills been afforded adequate training for the job.

Our medical schools are excellent, as far as they go. However, those of us who are in general practice know that they cannot possibly train the most intelligent medical students to readily recognize and treat all phases of medicine by observing the occasional hernia, decompensated heart or leukemia that we send to Iowa City. They do not and never can typify the day in and day out type of practice we are doing. This is why the preceptorship program is opening up a new and immensely interesting field of medicine which the senior student never dreamed existed. This will be of inestimable value to the specialist who otherwise would never realize what it is to pick up all types of pathology in their incipiency and to differentiate and perhaps effect a cure before they reach the stage where a specialist would be considered.

General practice has greatly changed in the past 30 years. Numerically, we do not need one third of the country doctors who once practiced in the small towns and crossroads of Iowa. The modern GP can easily do the work of three to five of the old school men. As is well known, this is not because he is a superman. First of all, a GP of the past might have plodded along with a team or a Model T and covered 20 to 30 miles in no less time than it takes the doctor of today to travel 60 to 80 miles while making the rounds at three or four hospitals. In the second place, the newer therapeutic agents have so entirely changed our type of treatments. We never see a diphtheria or a small pox case. Recently, when the writer had an assistant cleaning up a storage area, there came to light enough cans of powdered mustard to supply the community for months. This recalled vividly to mind the time when an acute lobar

pneumonia presented one of the greatest challenges of the doctor's career. Patients were cared for at home and had to be seen daily. Anything that might help, from antipyretics, counterirritants, shot-gun prescriptions of vaccines and expectorants, to sedatives, was legitimate. Many a call consisted of showing the family how to prepare and apply a mustard plaster and how to follow it immediately with hot oil and a generous amount of turpentine. Today, instead of this time consuming and worrisome procedure, a shot of penicillin and perhaps a few capsules do the trick. The patient seldom is seen more than once or twice. Six to eight week courses of typhoid fever are now a matter of history.

The experienced practitioner makes many diagnoses by telephone. For example, John Doe calls up and says that Mary had a chill in the night, has a fever and aches all over. Recalling that Mary had a baby about a month ago, the doctor inquires if she has any sore spots in her breast. A moment later John replies that Mary says there is a red sore spot in one breast. Now the diagnosis is certain. A dose of penicillin is prescribed for the mastitis. Again, Mary calls the local doctor at about midnight and informs him that John has a terrible pain in his eyes. When the doctor inquires as to what John did yesterday, he is told, perhaps, that John was making hay. Inquiring further, he learns that John had to run into town to get the sickle welded. Again the doctor has his diagnosis. John watched the welding process without proper goggles and that night his eyes paid for it. Thus it goes, *ad infinitum*.

The day of the general practice man being a dispenser of first aid is, if ever true, a thing of the past. He can today treat approximately 85 per cent of all cases that come his way. One set of carefully compiled statistics shows that about four per cent of all cases over a given period of time were referred to specialists and less than ten per cent were hospitalized.

Thus the general practitioner has a real responsibility. It is not reasonable that he be sent out as we were years ago to deliver babies in homes, having never seen a home delivery. While babies are now delivered in hospitals, there are still scores of things that are seldom encountered save in the local physician's office or in the home, which a young doctor would appreciate seeing.

GP is a specialty to which no dullard should aspire. No specialty can serve more of the human race. A general practitioner as a specialist should have a comprehensive knowledge of the diagnoses and treatments of all of the specialties. He cannot attain to the skill and experience acquired by the specialists in other fields. He must know to whom to refer each individual case.

How are we to train specialists in general practice? First, the basic sciences and fundamental medical training are required. Second, and of vital importance, is the preceptorship program. This program should be compulsory and consid-

erably enlarged upon so that each student will participate with several competent and experienced general practitioners. Third, the general practice internships and residencies now being offered in many medical centers should be available in all. Fourth, The American Academy of General Practice is to be commended for initiating a program of required postgraduate training. It requires 150 hours of postgraduate study every three years for continued membership. This has never been required by any of the specialty boards, in spite of the fact that medicine and surgery of today are so entirely different from a few years ago. Only recently one thousand members of the Academy of General Practice were dropped from the lists because they did not continue their study as required. This forward movement by the A.A.G.P. must be continued. Practically all medical centers are now offering courses which are applicable for credit in continuation work to keep abreast of the times.

How the GP specialist is to be reclassified and differentiated from the GP who is practicing Nineteenth Century medicine is yet to be established. It is certain, however, that a new specialist is being evolved to bring the *modern* specialist in general practice to the fore.

## SURGICAL FIXATION FOR THE FRACTURED HIP

Experience has proved that the most conservative treatment for fractured hips in the aged is early surgical fixation of the fracture, followed by early function. Mechanical fixation of the fracture temporarily restores continuity and security to the limb, thus removing most of the pain, anxiety, disability and functional upset. Postoperative care becomes primarily medical for the many other degenerative lesions of the aged: atelectasis, pulmonary infarction, phlebothrombosis and thrombophlebitis, which are the chief postoperative complications and are best prevented by functional activity already made possible by the operative fixation. Sepsis is a rare complication and is reasonably well controlled by antibiotics when it does occur.

Clinical experience also demonstrates that the earlier the operation follows the trauma, the fewer the complications and the more certain is bony union to occur. Delay of one week in surgical fixation may reduce the number of successful unions from 90 to 65 per cent. On operation later for nonunion is this group, Badgley\* invariably found the capsule intervening between fragments, which led him to believe that in delayed unreduced cases the capsule becomes fixed to the fragments.

It has taken many years to develop the concept of the value of surgical intervention for the fractured hip. It has come about through better pre and postoperative care, new surgical approaches  
(Continued on page 69)

\* Badgley, C. E., *Geriatrics* (December) 1952.



# AN APPRECIATION

ARTHUR WRIGHT ERSKINE, M.D.  
1885-1952



It is difficult to realize that our friend and colleague "Art" Erskine has passed from our midst. A life so full of fruitful endeavor in advancing the medicine of his time can not be measured by simple words of tribute. We bow in deference to that noble spirit of courage and sacrifice that by native talent and hard work rose to eminent leadership in the special field of radiology.

Born 67 years ago, May 6, 1885, in Lawrence County, Pa., where he spent his boyhood, Dr. Erskine completed a course of study in liberal arts at Hiram College, Ohio. At 20 years of age he entered Baltimore Medical College (now the medical school of the University of Maryland) from which he graduated in June 1908 with the degree of Doctor of Medicine. After graduation he served a year's internship in the Maryland General Hospital, Baltimore, followed by special graduate work at Johns Hopkins University Hospital.

Late in 1909 Dr. Erskine began the practice of medicine in Bessemer, Pa. He continued until March 1912, when he came to Cedar Rapids. He soon became interested in the specialty of roentgenology, improving every opportunity to visit Eastern medical centers. By intensive study and experiment he gradually gained a wide knowledge of the use of x-rays for diagnosis and treatment. He had a large part in the development of x-ray departments at Mercy and St. Luke's Hospital in Cedar Rapids.

Much of Dr. Erskine's early experimental work on the ionization measurements of x-ray and the long anode-skin-distance in x-ray therapy was carried out at the sacrifice of his health and the loss of all his fingers except the thumb and little finger of his right hand. More than 30 operations and skin grafts were required to repair the trophic injuries resulting from undue x-ray exposure.

In 1920 he was largely instrumental in organizing the Iowa X-Ray Club. Elected the first secretary, Dr. Erskine continued in this office until April 1952.

*(Continued on page 68)*

CHANNING GAMALIAL SMITH, M.D.  
1877-1952



A host of friends and colleagues were saddened to learn of the death of Dr. Channing G. Smith on Dec. 21, 1952, in San Antonio, Tex. He had gone there on a vacation December 13. A coronary occlusion attack on the first day necessitated his removal to a hospital. His friends in the State Medical office and throughout this community were kept advised of his illness. It appeared serious from the onset. His two sons, physicians, were able to be with him during his last illness.

When the Iowa State Medical Society chose Dr. Channing Smith as its eighty-first president in 1932, it honored the finest type of general practitioner of medicine. Dr. Smith was born Oct. 8, 1877 at Columbus Junction, Iowa. He lived there until 1890, when he moved to Des Moines. He was graduated in pharmacy in 1898 and in medicine in 1902 from Drake University. The following year he began the practice of general medicine at Granger, in Polk County, 15 miles northwest of Des Moines. As a graduate pharmacist he compounded his own drugs and prescriptions. He soon gained a large practice. It is a matter of record that he delivered more than 5,000 babies during his period of active practice. By attending frequent postgraduate courses in Chicago and at Harvard Medical School he kept himself in the forefront of medical progress.

In recognition of his progressive spirit, the Polk County Medical Society chose Dr. Smith for its president in 1921. With possibly two exceptions, he was the only member practicing outside of Des Moines elected to the presidency of the County Society. A decade later the State Medical Society honored itself by naming this "country doctor" its president-elect.

As an exponent of the highest ethical standards and leadership in extending the purposes of Society organization, he added distinctly to the prestige of Iowa medicine. Although burdened with heavy professional duties, Dr. Smith was ever ready to take part in civic and community service. From 1936 to 1938 he served as medical consultant to the Iowa State Emergency Relief

Association. In 1938 he transferred his practice at Granger to his son, Dr. Robert T. Smith, in order to accept the position of Medical Director and Consultant for the State Board of Social Welfare. Since 1946 he served as chairman of the Policy Committee, Vocational Rehabilitation Division, and since 1927 as a trustee of Drake University.

An interesting diversion in the active professional life of Dr. Smith was his continued interest in athletics. He was captain of the Drake University football team in 1898, the first successful group that represented that University. For the players Channing Smith became a tradition. The year he graduated he and his wife gave a dinner for the players. This became an annual occasion for 53 years, with the exception of two years while in military service with the Medical Corps, U. S. Army, World War I. Until 1935 the "Chan Smith" dinners for the football squad were given at his home in Granger; since then they have been held in Des Moines. Dr. Smith was one of the founders of the Drake Relays and an active member of the Relays Committee for many years.

The medical traditions will be carried on by two worthy sons, Dr. Robert T. Smith, Granger, and Dr. Elmer M. Smith, Eagle Grove. A third son, Channing Smith, is a graduate pharmacist and is located at Eagle Grove. A daughter, Mrs. Fred Fitzpatrick, is living in New York City. There are seven grandchildren.

Dr. Smith was married July 2, 1898 to Miss Margaret Bell Turner, deceased several years ago. The funeral services were held at University Church of Christ, Des Moines, Wednesday, Dec. 24, 1952, with interment in Woodland Cemetery.

We will miss dear old "Chan." The charm of his personality and his happy smile will linger as long as memory lasts.

—WALTER L. BIERRING, M.D.

## ARTHUR WRIGHT ERSKINE, M.D.

(Continued from page 67)

In 1931 the first edition of his work, "Practical X-ray Treatment," which passed through four editions, appeared. This textbook was accepted as an authoritative guide on the various forms of x-ray therapy in America and a number of foreign countries.

Dr. Erskine devised a series of specula for use in x-ray transvaginal treatment of cervical cancer. This received special recognition when exhibited in 1950 at the International Radiological meeting in London. He was further honored that year at a luncheon at the Curie Institute of Paris during the meeting of the International Cancer Congress.

Special honors came to Dr. Erskine in recognition of his valuable contributions in the field of x-ray therapy, as evidenced by his election to the presidency of the Radiological Society of North America (1925), the American Roentgen Ray Society and the American College of Radiology (1950). He was a Diplomat of the American

Board of Radiology and an honorary member of the Chicago Roentgen Society. At the 1930 session of the American Medical Association in Detroit, he was chairman of the Section on Radiology.

Dr. Erskine served as president of the Linn County Medical Society in 1920. His leadership in Iowa State Medical Society affairs was recognized by appointment to important committees, a long term as Councilor and, in 1939, election as the eighty-ninth president of the State Society.

In 1937 the Iowa State Medical Society established the Cancer Committee, of which Dr. Erskine became secretary. He continued in this office until two years ago, when he was named chairman. During this period two editions of the Cancer Manual were issued, the first in 1933 and the second ten years later. These manuals presented the "Standards of Diagnosis and Treatment of Cancer," and were of great value to practicing physicians. This manual proved so popular that well over 50,000 copies were printed and distributed to the doctors of several states. Each contains a complete bibliography of the different regional manifestations of cancer.

Associated with Dr. Erskine on the first edition were Dr. Frank P. McNamara and Dr. Everett D. Plass. Drs. Siegmund F. Singer and Donovan F. Ward assisted with the 1948 edition.

Dr. Erskine has also authored more than 40 articles, dealing chiefly with some phase of x-ray diagnosis and therapy, since 1919. The last, "A Study of Distribution with Seven Major Modifications of the Transvaginal Methods," was published in the October 1952 issue of *Radiology*.

One of Dr. Erskine's many talents was that of wood carving. He was awarded a cup from the American Physicians Art Association, Class A, for his carving of a panther exhibited at the Chicago session of the American Medical Association in 1944. He also carved a historic gavel for the American Roentgen Ray Society from wood used by three great pioneers in x-rays—Professor Roentgen, Clyde Snook and Dr. W. D. Coolidge.

At the closing session of the State Medical Society last April, the retiring president, Dr. Conzett, made the customary presentation of a new gavel to President Whitaker, after which Dr. Erskine came forward with the "working gavel," which was first presented by him to the State Medical Society in 1935. His brief speech at that time was of such superb wording that it is here repeated:

"As you preside over the deliberations of this Society, it may be that you will need a sturdier instrument; so I also give you a working gavel, carved from wood brought from a peninsula on the Adriatic, which in the dawn of Greek civilization was Epidaurus. It was on the moonlit slope of Epidaurus that Apollo seduced the nymph Coronis. From that union of wisdom and strength with beauty and grace sprang the great, the wise, the good Aesculapius. We have reason to believe—and I, for one, do believe—that the wood in this symbol of unity and authority came from a direct



descendant of the tree from which the original Aesculapian staff was hewn. I pray to Apollo, to Panacea and Hygeia and to Aesculapius, the father of us all, that the need may never arise for it to be used to quell dissension in our Society."

We saw Dr. Erskine last here in Des Moines at the time of the Iowa Division's American Cancer Society dinner in October, when he was honored by the American Cancer Society with their bronze medal, inscribed, "To Arthur Wright Erskine, M.D., as the Iowan who had contributed the most to the fight against cancer." In accepting this distinguished citation in the presence of Mrs. Erskine and some 300 fellow workers, he was deeply touched with a thrill of pride at this recognition of his many years of labor in the cause of cancer.

Little did we realize that the parting handclasp was a last farewell. A cerebral hemorrhage brought an untimely end to this useful life on Wednesday, Dec. 10, 1952. The funeral services were held in Turner Chapel, Cedar Rapids. A Presbyterian minister and a Catholic priest joined in paying tribute to the life and work of Dr. Arthur W. Erskine.

It was one of life's privileges to have known "Art" Erskine. His like will not come soon again.

—WALTER L. BIERRING, M.D.

## EDITORIALS

(Continued from page 66)

and more effective mechanical fixation of the fracture. Other aids have been the recent advances in replacement of fluids and electrolytes before and after surgery, availability of blood in required quantities and protein and vitamin therapy.

The aged tolerate surgery if supplied with competent operative care, fluids and blood. The older the patient and the graver the risk, the earlier should preparation for surgery be made and the earlier should the operation be performed. Delay because of the poor condition of the patient usually leads to more serious complications. Preliminary traction and premedication, with surgery within a few hours, should be the aim. Any patient who is active at the time of the accident should tolerate surgery well if done prior to complications.

## FRIENDS SERVICE COMMITTEE AT INDEPENDENCE

The American Friends have selected the Institute for Mental Health, Independence, Iowa, for a year-round Institutional Service Unit program.

The northeastern Iowa Institute cares for 1,700 patients. Among medical circles it has a distinguished record for the care and treatment of the mentally ill. A second institution, the correctional Clinton Farms Reformatory for Women, Clinton, N. J., has also been selected for this type of service.

In the mental hospital service unit members serve as ward attendants. They are regularly employed personnel, earning the same salary, assigned the same duties and responsibilities as other employees of similar status. The initial objective is to give service by filling the need for personnel which continually exists in mental and correctional institutions. Secondly, members work to increase their insight, experience and knowledge, so that, as responsible citizens and individuals who are deeply concerned about other human beings, they may better search for the causes, preventions, care, treatment and rehabilitation of these persons who, as one unit member commented, "bear the brunt of men's potential suffering."

The Institutional Service Unit Program has as its background the traditional Quaker interest in mentally ill and imprisoned persons. The present program had its origin in the Civilian Public Service units and camps for conscientious objectors during World War II. Based on the experience of CPS men and the knowledge that women were needed to work in institutions as urgently as men, the American Friends initiated their first year-round ISU project in 1943. The pioneer participants were seven young women who served in the Philadelphia State Hospital at Byberry. Since then about 150 men and women have participated in summer and year-round units each year.

At the Institute for Mental Health, where there has been an Institutional Service Unit for the past four years, the unit members, as ward attendants, scrub floors, bathe and feed patients and do other menial and unpleasant tasks. They may also do some clerical and laboratory work. They work with the Institute's occupational therapy department, which the hospital administration believes plays a significant part in restoring mental health. Unit members supervise finger-painting, organize games and Saturday night dances and join with the patients in acting out psycho-dramas. About 10 to 15 persons make up a unit. Each earns \$100 a month, plus room, board and laundry. They work a 48 hour week.

In off-duty hours the ISU group achieves its greatest significance as a unit. The members, who come from widely diverse economic, social, religious and racial backgrounds, meet together to help one another answer the problems which each individually faces each day in his work. Although they are encouraged to attend their own churches, the unit is introduced to silent worship in the manner of the Society of Friends. The unit plans recreation, trips to nearby communities and arranges for guest speakers to visit the group.

Opportunities for participation in year-round Institutional Service Units are currently open to young men and women. The American Friends Service Committee, 20 South Twelfth Street, Philadelphia 7, Pa., have complete literature and details on participating in the service units.

## *President's Page*

May I make a suggestion, really a request, for your careful consideration?

In years past our programs consisted almost entirely of scientific discussions. This was as it should have been, for it is the purpose of Society meetings to further our knowledge.

However, within the past few years organized medicine has been compelled to broaden its thinking to include the economic and public relations side of medicine. This is increasingly becoming more important; in fact essential.

It is for this reason that I urge all county societies to devote at least one program this coming year exclusively to these subjects. Many members wonder why the State Society has had to expand, why the dues need to be \$50.00 a year or have similar questions. The central office will gladly cooperate in arranging such a program. For the good of our organization, I hope you will plan such a meeting.

*B. J. Whitaker*

*President*



## *General Manager's Page*

This is a legislative year. By the time this message reaches you, many bills will have been introduced into the present session of the Iowa Legislature which will be of vital importance to the medical profession of Iowa. Your Society will be interested in a slight revision of the Code which will clarify a rather confused licensure situation. The suggested changes in the Code have been given careful study by a special committee, appointed by the President, as well as by the Legislative Committee. The object of this legislation is to maintain the high standards of medical care which now exist.

It is also our duty to see that adequate funds are provided for the continuation of the increased enrollment of medical students so that an adequate number of physicians may be provided to maintain this high level of medical service and, if possible, to provide more physicians for the communities which are now lacking medical care.

Your Legislative Committee will keep you informed by its bulletins of the progress of this legislation, which will concern us indirectly as well as directly. We should interest ourselves particularly in the maintenance of health services, adequate finances for our schools, both at the local level and college level, and auxiliary medical service, such as school health programs and improvement of crippled children services.

Your senator or representative will undoubtedly ask your advice concerning the above important legislative problems, and will depend upon you for guidance in the many other problems which he will be called upon to solve.

*R. S. Bernard, M.D.*

*General Manager*

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. LONNIE A. COFFIN, Farmington

*President-Elect*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*Secretary*—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

*Treasurer*—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

---

## EDUCATIONAL TELEVISION CONFERENCE

Mrs. Loyd K. Shepherd, Des Moines, public relations chairman for the Woman's Auxiliary to the Iowa State Medical Society, attended the Governor's Conference on Educational Television at the State Office Building, Des Moines, December 16, 1952. The purpose of the meeting was to ascertain how the Auxiliary and the other interested organizations might contribute to public awareness of a new television opportunity.

The Federal Communications Commission has allocated channels for educational use. There are enough channels for Iowa to develop a network that would make possible educational television for every home in the state. These channels have been reserved until June 1, 1953 when they will be opened for general applications. Such an Iowa network for cultural and educational enrichment has deep significance in the immediate future for all citizens in the state.

Interested organizations are urged to inform the legislators of their views. The University is prepared to open a studio if given permission by the legislature in July.

The chief speaker in Des Moines was Mr. McCarty of Wisconsin. He is a member of the National Committee of which Milton Eisenhower is chairman.

---

## FUTURE NURSES CLUB NEWS

Mrs. Melchoir D. Enna has written the state chairman, Mrs. Dean H. King, for film and suggestions for organizing Future Nurses Clubs in Butler County.

The Future Nurses Club of Spencer is active and enthusiastic. Mrs. Elbert E. Munger, Spencer, is Clay County chairman.

Junior and senior students of the Perry Schools and several surrounding towns were guests at a tea in October. Miss Jessie Norelius, secretary of the Iowa State Nurses Association, was the speaker. Mrs. William C. Wildberger is chairman for Dallas-Guthrie Auxiliary.

The organization of Future Nurses Clubs in all Sioux City High Schools is a new and major project of the Sioux Med-Dames. Mrs. Lawrence E. Pierson is chairman for Woodbury County. The clubs are intended to stimulate interest in profes-

sional nursing. The films "For You to Decide" and "Girls in White" were shown in assemblies. The following doctors appeared as guest speakers when the films were used: Edward H. Sibley, Keith E. Arnold, Edward M. Honke and Maxwell T. Wainwright. The follow-up program was held November 19 at the YWCA, where material was distributed and clubs were organized.

Future Nurses' pins may be obtained from the Bale Pin Company, Box 2363, Boston 7, Mass. Order #230, 1-4 pins, 85c; 5-49 pins, 65c; 50 pins, 60c.

Nurse Recruitment and Loan Fund Chairmen for County Auxiliaries are requested to send the following information to Mrs. Dean H. King, state chairman, 307 East Fourth Street, Spencer:

1. Planned programs for the year.
2. The county survey of nurse scholarships, loan funds, revolving loan funds and interest carried.
3. Accounts of projects to raise money for loan funds, planned programs and publicity. Duplicates of same should go to Mrs. Keith M. Chapler, Dexter, publications chairman.

Contributions to the Nurses Loan Fund should be mailed to Mrs. Dwight C. Wirtz, treasurer, 449 56th Street, Des Moines, Iowa.

---

## COUNTY AUXILIARY ACTIVITIES

The Yuletide dinner meeting of the Auxiliary of the Clinton County Medical Society was held at the home of Mrs. Vernon Petersen. A savory roast beef dinner was served to the guests.

MRS. ROSS C. KING

Woodbury County Auxiliary conducted its annual sale of articles made by the handicapped in Sioux City October 23, 24 and 25. Mrs. Robert H. McBride was chairman of the sale and Mrs. Joe M. Krigsten was co-chairman. About 60 members of the Sioux Med-Dames took an active part in this project. Proceeds from sale of the articles amounted to \$1,344.22. Of the proceeds, \$121.50 was taken in orders. Each year through advertising and conducting the sales, members try to meet and become acquainted with the participants. Everyone benefits in working toward a successful sale for the handicapped.

MRS. KEITH E. ARNOLD



## THIRTIETH ANNUAL MEETING

The Thirtieth annual meeting of the Woman's Auxiliary to the American Medical Association will be held in New York, N. Y., June 1 to 5, 1953. The headquarters will be at the STATLER HOTEL (formerly the Pennsylvania).

The following is the tentative program schedule:

Sunday, May 31—Registration and pre-convention meetings of National Committees.

Monday, June 1—Registration. . . . Meeting of the Board of Directors. . . . Round Table discussions (Committees on Legislation, Program, Public Relations and Today's Health). . . . Tea in honor of the President and President-elect to which all members and guests are cordially invited.

Tuesday, June 2—Opening session of the Convention. . . . Luncheon in honor of the national past presidents.

Wednesday, June 3—General convention session. . . . Annual Luncheon.

Thursday, June 4—General convention session. . . . Adjourned Meeting of the Board of Directors. . . . Annual Dinner.

Friday, June 5—Conference of state presidents and presidents-elect with national officers and chairmen of standing committees.

The Statler Hotel has set aside a block of rooms for the Woman's Auxiliary. It would be wise to make reservations as early as possible. When doing so, please mention the Woman's Auxiliary—your reservation will then receive special attention. A list of other hotels will appear in a future issue of the *Journal of the American Medical Association*.

Mrs. William J. Lavelle of Astoria, N. Y., and Mrs. Adolph Emerson of Brooklyn, New York, will be chairman and co-chairman of the committee on convention arrangements.

## JEAN GREEN REVIEWS "FORTY ODD"

If you are prone to class yourself among the "neglected ones," then two books by Mary Bard, a doctor's wife, are bound to restore sense of humor and cheerful outlook on life.

"Forty Odd," recently published, is a sequel to "The Doctor Wears Three Faces," which was published three years ago. Mrs. Bard has a priceless feeling for the pointed phrase. The recounting of her experiences as a doctor's wife results in satisfying entertainment.

The book was written after her fortieth birthday. Her hilarious account of her new approach to life is unfolded. To prepare for C. of L. (change of life) and avoid being 4F, which her husband defines as forty, fat, flustrated, forlorn, she starts a course of self-improvement. She first has a com-

plete physical, then starts reducing, joins the greater books discussions group, takes Swedish baths, outdoor exercises, participates in the social whirl, buys new clothes and becomes the leader of the Brownie Scouts.

Throughout all of this, she is assisted and hindered by her doctor husband and three irrepressible daughters (the youngest of which brags that her mother is the oldest mother in her room at school).

There is much wholesome fun in the light-hearted account of her problems. The book would be enjoyed by all but would particularly strike a sympathetic note in the heart of a doctor's wife.

The author describes a husband thus: a man who is licensed to come home every night on the 5:10, eat dinner, play with the children and work in the garden.

"A doctor is a man who is licensed to practice medicine.

"Combine the two and what do you get? You get a draught in the hall, a slammed door, an empty chair at dinner and a voice on the telephone." Mary Bard didn't know all this when she married her doctor-husband . . . but if she had, she would have married him anyway!

From *The Hoosier Doctor's Wife*. December, 1952.

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

## EVERYDAY HEALTH PROBLEMS

February 5 . . . . . Migraine

February 12 . . . . . Allergies

## HI-FORUM

February 19 . . . . . Youth at the Wheel

February 26 . . . . . How to be Popular

WSUI—Tuesday at 11:45

## GUARDIANS OF YOUR HEALTH

February 3 . . . . . Popular Health Crusaders

February 10 . . . . . Health Education

February 17 . . . . . Working Together

## EVERYDAY HEALTH PROBLEMS

February 24 . . . . . Reducing

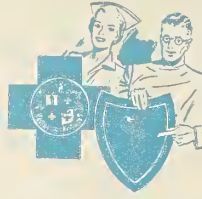
## TELEVISION SCHEDULE

WOI-TV—at 9:00 p.m.

February 11 . . . . . Milk Show

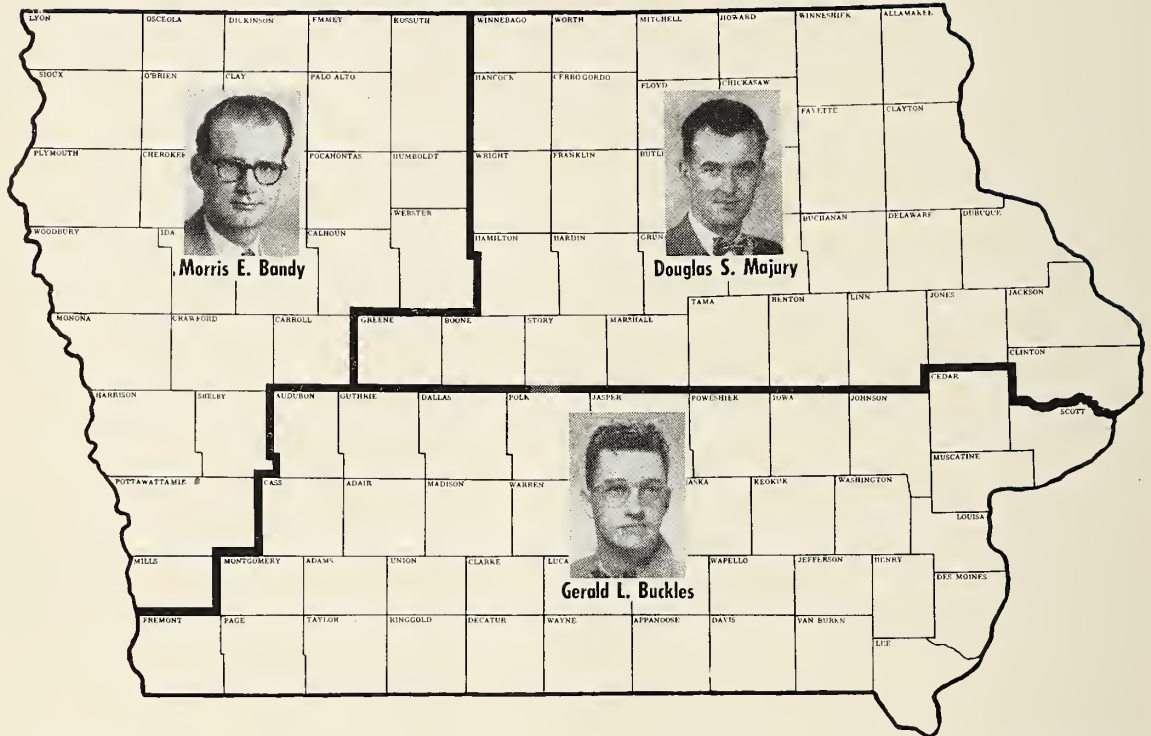
February 25 . . . . . Depression

# BLUE CROSS



# BLUE SHIELD

## Physician Relations Field Staff Assignments



### BLUE CROSS-BLUE SHIELD PHYSICIAN RELATIONS DEPARTMENT

This territory map is published for the purpose of better acquainting the profession with the men who serve it in a physician relations capacity. These men are assigned the responsibility of maintaining constant liaison between Blue Cross-Blue Shield and the profession. Their main function is to keep the doctors and their office personnel informed on all matters pertaining to Blue Cross-Blue Shield. The field men are expected to call at the office of each physician in their territory at least once every three months in order to convey pertinent information on Blue Cross-Blue Shield and to service any claim problems, particularly when they involve the determination of full service eligibility of a Blue Shield member.

This department was formed about a year and a half ago under the co-sponsorship of the Blue

Cross Plans and Blue Shield. The man who headquarters out of Sioux City is co-sponsored by the Sioux City Blue Cross Plan and Blue Shield and the two men who work out of Des Moines are co-sponsored by the Des Moines Blue Cross Plan and Blue Shield. The main office of the Department is located in Room 438 of the Liberty Building, Des Moines, with a branch office in Sioux City at 522 Security Bank Building.

These field men are available for county medical society and hospital staff meetings. They are also assigned the task of conducting annual meetings of the doctors' secretaries and nurses. In addition, they work with the Blue Cross-Blue Shield sales force in sales promotion and occasionally are in contact with management to deal with various matters. They work with farm groups in order to better inform them on these Plans, which are sponsored by the hospitals and doctors.

(Continued on page 82)



---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## ANNUAL MEETING

Due to the multiplicity of activities which accompany the annual meeting of the State Medical Society in April each year, it has grown difficult for the Academy to find adequate time for its annual meeting without interfering with State Society functions. We have held our one important business meeting at that time so that we might have a good representation in attendance. However, our Constitution provides that the annual meeting of the Academy shall be held at a time set by the Board of Directors, and accordingly, the Board has decided on a departure from the usual procedure in that the annual meeting of the Iowa Academy of General Practice will be held during a two day postgraduate course in September of 1953.

While the program has not yet been completed, a number of excellent speakers are in mind. It is hoped to make this one of the outstanding meetings in Iowa. In addition to the scientific and business program, a social program is being planned so that we may bring our wives and have a good time together.

Although our business meeting will not be held in April, plans are being made for an Academy luncheon at that time. Further announcements will be made on both of these meetings.

---

## MISUSE OF THE ELABORATION OF ETHICS

As general practitioners, we can well afford to take an active part as custodians to see that the Elaboration of Medical Ethics, as recently set forth by the Iowa State Medical Society, is not abused. Designed as it was to facilitate relations between doctors, it carries a further and important responsibility between doctor and patient to see that excessive or exorbitant charges are not made. If such a thing happens and the bill for a surgical procedure is increased 50 to 100 dollars, someone is much at fault and the family doctor had better take things in hand. The family doctor can do several things to prevent these simple and practical rules of practice from being misused.

*First*, the family doctor must know what the average fee for a given procedure should be. To control abuses of overcharging, the general prac-

titioner should be actively interested in seeing that an average fee schedule be set up and published for his county. If you want to see how this is done, check with Linn County on their efforts. They have printed their average fee schedule in booklet form to make it available to each doctor. This may be shown to the patient if necessary. It helps to promote good business as well as good public relations.

*Second*, talk over the financial problems of illness or accident with your patients whenever possible. In cases of emergencies where you have no opportunity for such frank discussion, let the family doctor assume the responsibility of guardian of his patient's pocketbook as well as his life. An open and aboveboard talk will aid understanding immeasurably. The patient will appreciate your personal interest.

*Third*, when armed with the above information, have a talk with the surgeon or physician and tell him frankly what you know and what you think the charges should be. If he is not willing to go along with you when you present him bona fide information about your patient's financial status, you had better look for someone else, for if he has no concern for the financial well-being of the patients you entrust to his care, he is not worthy to be called a doctor.

*Fourth*, and probably most important, do not think that by being human you exhibit weakness. Whenever doctors lose honesty and fairness in their dealings with patients or fail to show compassion for the sufferings of humankind, they not only slide downward in the estimation of their patients; they also lower the standing of their whole profession. Any digression from or perversion of any phase of Medical Ethics is bound to be known. The guilty one will lose the approbation of his colleagues and patients.

Perhaps it would be worthwhile to reflect on the words of Sir William Osler: "I have three personal ideals. One, to do the day's work well and not to bother about tomorrow. . . . The second ideal has been to act the Golden Rule, as far as in me lay, toward my professional brethren and toward the patients committed to my care. And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride and to be

ready when the day of sorrow and grief came, to meet it with the courage befitting a man."

### THE ST. LOUIS MEETING

The Fifth Annual Scientific Assembly of the American Academy of General Practice will be held in St. Louis March 23 through 26. The meetings will be held in Kiel Auditorium. The program has been published and promises much practical and valuable material to the general practitioner.

While good accommodations are still available, avoid delay in acquiring them as a large attendance is anticipated. The Congress of Delegates will meet in the Statler Hotel in downtown St. Louis. Drop in and listen.

We are trying to make arrangements to hold a luncheon for members and friends of the Iowa Academy during the meeting. We hope to make definite announcement next month. If not possible to do so then, check when you register.

### AAGP GROUP PLAN INSURANCE

The AAGP Group Plan Insurance is now in effect in Iowa for members of the Iowa Academy of General Practice. Some claims have already been paid. This insurance has added another advantage to membership in the Iowa Academy. New members under 50 years of age will be accepted without limitation or question if they apply within 60 days of their acceptance into membership. Older men will be accepted, but the company reserves the right to make fair adjustments if necessary. Several policies are offered. When you advise a doctor to apply for membership, suggest that he request information on the insurance at the same time. Sometime this year we hope to circularize the practitioners of the state. Representatives of the company are planning to attend one of our meetings this year—perhaps the annual meeting.

### CLINICAL PATHOLOGIC CONFERENCE

(Continued from page 63)

pain was intense when he attempted to use the arm and, as was mentioned, he had a "catch" in the scapulohumeral joint when the arm was abducted to about 80°. This would indicate some mechanical impingement, most likely a shoulder cuff injury, excluding any bone injury or calcific deposits.

Even though a shoulder cuff injury or the various other common ailments of the scapulohumeral area do cause great and prolonged pain at times, I am not familiar with any ailment in the shoulder which would cause pain of such intensity and which would persist and grow con-

stantly worse, requiring narcotics to the extent that the individual would develop addiction and neurotic manifestations necessitating shock treatment, excepting malignant bone tumor. I have seen these tumors cause pain of an intensity and constancy approaching that which this man experienced. So, I should have thought of some such lesion as that, in the absence of any local findings and in view of the fact that this patient did not respond to therapy. Furthermore, the pain was of a deep, boring type: the so-called "deep pain" as distinct from the superficial type of pain of less intensity.

There is another point in this case that I should like to mention. After he came here, we procured the first x-ray films and we observed the changes in the region of the coracoid process in this involved extremity. I think it is important to call to your attention the fact that the changes were also noted by the roentgenologist at that time. Therefore, I think that if the entire clinical picture were considered, including the most valuable single diagnostic aid we have, the x-ray, the diagnosis in this case might have been made much earlier and perhaps the outcome might not have been quite so tragic.

*Dr. Stuart C. Cullen, Anesthesiology:* I would like to know the cause of the pain. Was it in the periosteum?

*Dr. Newman:* The exact source of the pain, whether periosteal or muscle or bone, is impossible to say. It may have arisen in any one or all of these structures. It was certainly of mesodermal origin, and any of the structures arising from the mesoderm may, when subjected to any adequate irritation, produce pain of this nature. Intense pain can be produced by injection of hypertonic saline solution, by mechanical or other irritation of muscle, ligaments or periosteum. Not only that, this pain so produced may have a segmental distribution; that is, the areas irritated will cause pain in other areas supplied by the nerve root. I think this patient exhibited this phenomenon.

*Dr. Henry E. Hamilton, Medicine:* Given a hundred cases of this type of lesion, picked up early, how many will have a two year survival?

*Dr. Bonfiglio:* A two year survival rate will probably be about 25 to 30 per cent; a five year survival rate, 15 per cent and no more. The ten year survival rate would drop even below that figure. Now, in an area such as this, a local resection is not feasible. If it were the distal end of a long bone, it might be possible to do a local resection with replacement bone grafting or amputation, but in this particular region the only recourse was the thoracoscaphular amputation. Had it been gotten earlier, I doubt that the eventual outcome would have been any different; however, I do believe that the patient would have had a longer life and a far more comfortable one. His metastases would not as likely have been contiguous but this is not certain.



---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

**DERMATOLOGY, Essentials of Diagnosis and Treatment**, by *Marion B. Sulzberger, M.D.*, Professor and Chairman, Department of Dermatology and Syphilology, New York University Post-Graduate Medical School; Director of Dermatology and Syphilology, Skin and Cancer Unit and University Hospital, New York University-Bellevue Medical Center; Captain (M.C.), U.S.N.R. and Consultant and Dermatologist to the Bureau of Medicine and Surgery, U. S. Navy; and *Jack Wolf, M.D.*, Associate Professor of Clinical Dermatology and Syphilology, New York University Post-Graduate Medical School; Attending Dermatologist and Syphilologist, Skin and Cancer Unit and University Hospital, New York University-Bellevue Medical Center. The Year Book Publishers, Inc., Chicago, 1952. Price \$10.00.

**THE LITERATURE ON STREPTOMYCIN (1944-1952)**, by *Selman A. Waksman*, Institute of Microbiology, Rutgers University Press, New Brunswick, N. J., 1952. Price \$5.00.

**OPERATING ROOM TECHNIC**, by Sisters of St. Mary's Hospital, Rochester, Minn. W. B. Saunders Co., Philadelphia, 1952. Price \$6.50.

**TEXTBOOK OF SURGERY**, edited by *H. F. Moseley, M.A., D.M., M.Ch. (Oxon), F.A.C.S., F.R.C.S. (Eng.), F.R.C.S. (C)*; Assistant Professor of Surgery, McGill University; Associate Surgeon, Royal Victoria Hospital, Montreal, Canada; with Foreword by *G. Gavin Miller, M.D., C.M., M.Sc., F.R.C.S. (C), F.A.C.S.*; Chairman of the Surgical Department, McGill University; Surgeon-in-Chief, Royal Victoria Hospital, Montreal, Canada. C. V. Mosby Co., St. Louis, 1952. Price \$15.00.

**THE 1952 YEAR BOOK OF DRUG THERAPY (August, 1951-August, 1952)**, edited by *Harry Beckman, M.D.*, Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General and Columbia Hospitals, Milwaukee, Wis. The Year Book Publishers, Inc., Chicago, 1952. Price \$5.50.

## BOOK REVIEWS

**PARDON MY SNEEZE**, by *Milton Millman, M.D.* (Frye & Smith, Ltd., San Diego, Calif. \$2.00).

This book has obviously been prepared for public consumption. The author explains the different types of allergy in a way in which the average patient may obtain understanding of his condition. The book includes suggested diets for a 14 day program. Physicians treating allergies will find this book helpful for allergic patients to read.—*E. M. George, M.D.*

**PHYSICAL DIAGNOSIS**, by *Harry Walker, M.D.* (C. V. Mosby Co., St. Louis, 1952, \$8.00).

*Physical Diagnosis* is designed principally for the medical student entering his clinical years. It is well written. Ample use of subtitles permits easy reference. The well conceived diagrams of body relationships help to make physical diagnosis more understandable. Medical students will be glad to know that the plethora of men's names attached to "signs" has been markedly reduced. The old familiar terms are included, but are buried.

The order of the chapters and sections is rather peculiar. The usual general chapters are followed by chapters on inspection and palpation of different systems. These are followed by chapters on percussion and auscultation. The abdomen is discussed rather briefly. Chapters on female pelvic disease, neurologic disease and psychiatric examination are good. The

second and third sections treat exclusively of diseases of the respiratory and circulatory systems. In the opinion of this reviewer, either diseases of all systems should be reviewed or else they should be covered incidentally in description of physical signs.—*D. A. Glomset, M.D.*

**RESEARCH IN ENDOCRINOLOGY**, by *August A. Werner, M.D.*, and Associates. (Von Hoffmann Press, Inc., St. Louis).

This book is made up of a group of scientific papers published, and research project instigated, by Dr. Werner, endocrinologist on the staff of St. Louis University School of Medicine. This series deals almost entirely with experiments on men and women in the climacteric.

Several reprints reiterate the theme that adequate dosage of estrogenic hormone will relieve a goodly percentage of women suffering from involutational melancholia. He believes that hormonal imbalance is the most important factor in the etiology of this syndrome. His efforts are concentrated along these lines.

The author is convinced that the male climacteric is a clinical entity. Several studies are included to demonstrate that men suffering from this disorder are relieved by the administration of androgenic hormone. Detailed studies are presented in which the separate symptoms are described; the recession of these abnormalities, under supervision, is described.—*A. G. Lueck, M.D.*

**SURGICAL GYNECOLOGY, Including Important Obstetric Operations**, by *J. P. Greenhill, M.D.* (Year Book Publishers, Inc., Chicago, \$8.50).

Greenhill has prepared another composite, excellently written book. In approximately 330 pages the author has attempted to describe all of the major and minor operative procedures used by modern gynecologists. The operative technic, in addition to capable description, is supported by over 500 pictures. The book is small, easy to read and surprisingly complete. It is a good review for those interested in gynecological surgery. In addition to surgical technic, the author presents a condensed form of his method for such important adjunctive therapy as preoperative care, postoperative care, water balance, shock, hemorrhage and most of the important requirements necessary in the care of surgical patients. He concisely mentions the diagnosis and treatment of many of the major postoperative complications following this type of surgery. The order of the book is clear and easy to read. He discusses vulvar, vaginal and abdominal procedure, in that order. One must be impressed by the number of procedures covered; minor as well as the major surgical complications. One word of caution must be mentioned: while the book is an excellent review and possible source of resident teaching, it definitely should not be used as the sole guide in the performing of new procedures by inexperienced surgeons.—*Milton S. Mark, M.D.*

---

# STATE DEPARTMENT OF HEALTH



---

It is with feelings of pleasure and gratification that the Iowa State Department of Health extends to all its sincere greetings and good wishes for the New Year from its new home in the State Office Building.

As we come to the close of another milestone for public health in Iowa, it is fitting to reflect on the progress during the last year in the betterment of community health conditions throughout the state.

Where formerly one of the principal functions of a health department was the control of epidemic outbreaks of certain acute communicable diseases, now all efforts are centered on protective and preventive vaccination and immunization whenever possible, with special awareness of the danger of a single case leading to a greater extension of the disease, and the constant watchfulness for the appearance of any new infectious diseases. Smallpox, diphtheria, tetanus and typhoid fever are now definitely prevented and controlled by specific methods of vaccination and immunization.

Scarlet fever, measles and whooping cough are becoming less of a problem each year, as the complications of these infectious diseases, as well as the course of illness, are being greatly modified by newer methods of prevention and treatment.

Human brucellosis continues to prevail in Iowa but the preventive measures have been greatly simplified, since it is definitely established that the disease is transmitted to man through the ingestion of milk from infected animals and by direct contact with diseased organs and other material, as occurs with workers in packing plants and practitioners of veterinary medicine. While rabies is still prevalent in domestic and certain wild animals, no human cases have been reported during 1952.

The continued lowering of the maternal and infant death rate in Iowa is largely due to the carefully prepared prenatal and postnatal directions issued by the Division of Maternal and Child Health. The investigations now carried on by this Division as to the causes of premature births and deaths during the first year of life are destined to yield fruitful results in saving many young lives.

In 1952, poliomyelitis exacted its highest toll in the history of the disease in Iowa, 3,484 cases being reported through December 27. It is, however, encouraging to note that the death rate in

this large number of cases is remarkably low. It is likewise remarkable that many of the patients affected with the severe or bulbar type of the disease have recovered completely from the extensive attending paralysis. The public health nurse had an important part in organizing the post-hospital nursing and rehabilitation care of these patients, particularly in rural communities.

Another encouraging feature in poliomyelitis is the prospect of a preventive agent in the form of gamma globulin, a human blood derivative. Sioux City and Woodbury County were selected as one of the areas in the United States to test the prophylactic value of gamma globulin. The result of these studies permits a hopeful view for effective control.

The cooperative tuberculosis casefinding program, with the active participation of the Iowa Tuberculosis and Health Association and the Iowa Heart Association, has been greatly extended during the past year, entirely on a countywide basis. The massive chest x-ray filming continues to reveal about two per cent of otherwise unrecognized cases of active tuberculosis, as well as abnormal hearts and tumors and nontuberculous diseases of the lungs.

The control of venereal diseases has become to a large extent a medical problem, in that effective early treatment by the practicing physician greatly limits the spread of the disease. The Health Department is mainly concerned with active follow-up investigations of those individuals who have had contact with the infected person. A surprising number of positive cases have been detected by this means which, if placed promptly under treatment, will prevent further spread. It is proving a most effective control program.

Each year there is a wider recognition of the importance of chronic or long term disease as a public problem. With the effective control of the infectious diseases of the younger ages, the life span has been increased and we are gradually becoming a population of older persons. As a result, health agencies are becoming concerned with the problems of the aging process, chronic diseases of the heart, blood vessels, kidneys, blood, liver, joints and the nervous system, as well as cancer in all forms; diabetes and other nutritional disturbances. Through health education there is a wider understanding of the facilities available for prevention, medical and surgical relief and rehabili-



tation methods for bringing these handicapped persons back to lives of useful endeavor.

In the hospital construction program, special provision is being made, both in new and existing hospitals, for the diagnosis and treatment of chronic diseases.

Through the active cooperation of the Iowa dental profession with the Division of Dental Hygiene, distinct progress has been made in developing preventive measures against tooth decay, particularly in the school child and early convalescent period.

The duties and responsibilities of the Division of Public Health Engineering and Industrial Hygiene have been greatly increased by the extensive program of stream pollution control required by recent legislative enactment. To this has been added the pollution control of the border rivers, the Missouri and Mississippi. The safeguarding of the purification of all public water supplies, the prevention of the pollution of our streams, rivers and lakes, and adequate sewage disposal, requires the services of a qualified public health engineer. Iowa is fortunate in having such efficient services available to ensure the highest standard of environmental protection for its citizens.

Vital records are deeply concerned with all human relations, and Iowa may well be proud of its State Division of Vital Statistics. The volume of services performed by this division is recognized by stating that it completed and processed about 125,000 new records during 1952. The division also issued over 100,000 copies of vital records during the year.

The distribution of sound health information is recognized as one of the most important functions of a modern department of health in promoting a better understanding of the principles involved in the maintenance of health and prevention against illness. The methods of visual education, interesting bulletins and health news, recorded lectures, workshops and demonstrations developed by the Division of Public Health Education have been very effective in attaining this objective.

The Department desires to express its obligation to all officials and voluntary health agencies for their cooperation in making 1952 a year of promise and hope for the health and happiness of our people.

With assurance of this continued support, we approach with confidence the challenge of the year ahead.

### DO YOU KNOW THAT—

—Iowa's population increased only 3.3 per cent from 1940 to 1950, up to 2,621,073?

—in the decade 1940-1950, 519,272 children were born to Iowa mothers and 256,832 Iowans died, leaving a natural increase of 262,440?

—while our natural increase was 262,440, our actual increase was 82,805, indicating a net loss

by migration of 179,635 Iowans in the ten year period? (almost 1,500 every month.)

—one-half of the people of Iowa are under 31 years of age?

—one person in ten in Iowa is 65 years old or older?

—one person in ten in Iowa is under 5 years of age?

—only one half of the population over 25 completed the 10th grade of school?

—one half of the families have an income of less than \$60 per week?

—33 out of every 100 families have an annual income of less than \$2,000?

—29.9 per cent of all Iowans live on the farm, 15 per cent less than in 1940?

—22.4 per cent of all Iowans live in towns of less than 2,500 population, 13 per cent more than in 1940?

—47.7 per cent of all Iowans live in cities of 2,500 or more population, 13 per cent more than in 1940?

—Iowa women outnumber Iowa men by 507?

—67 per cent of the Iowa women over 14 years of age are married?

—68 per cent of the Iowa men over 14 years of age are married?

—one woman in every seven in Iowa is widowed or divorced?

—only one in every 25 married couples lives in a household not their own, with in-laws, etc.?

—one person in 95 is a patient in an institution?

—one-third of all men who are employed in Iowa are farmers?

—of the people who are employed in Iowa, including the self-employed, one in 12 is a government worker?

—three of every ten employed Iowans work for themselves?

### MORBIDITY REPORT

DISEASES	DEC. 1952	NOV. 1952	DEC. 1951	MOST CASES REPORTED FROM THESE COUNTIES
Diphtheria	2	4	2	Woodbury
Scarlet Fever	120	75	40	Buena Vista, Polk, Story
Typhoid Fever	0	2	1	.....
Smallpox	0	0	0	.....
Measles	373	182	93	Linn, Polk, Union
Whooping Cough	22	55	26	Boone, Polk, Wapello
Brucellosis	22	29	34	Scattered—1 to a county
Chickenpox	704	355	290	Des Moines, Polk, Linn, Story
Meningitis men.	3	3	6	Cerro Gordo, Clarke, Linn
Mumps	174	47	184	Buchanan, Des Moines, Muscatine
Poliomyelitis	39	278	9	Davis, Hardin, Lyon, Polk
Rabies in Animals	7	12	22	Scattered (only one to any one county)
Tuberculosis	42	63	50	For the state
Gonorrhea	38	68	55	For the state
Syphilis	57	75	157	For the state

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Cerro Gordo

Clifford W. Thomas, M.D., Mason City, is new president of the Cerro Gordo County Medical Society. Others elected are Drs. James W. Lannon, vice-president; Joseph E. Christopherson, secretary; Lawrence C. Orton, treasurer; Jay E. Houlihan and Carroll O. Adams, delegates, and Harry G. Marinos, alternate delegate. All are from Mason City.

### Dubuque

New officers of the Dubuque County Medical Society were elected December 9. They are Drs.: Luke A. Faber, president; Richard V. McKay, first vice-president; Charles C. Griffin, second vice-president; Clarence A. Darrow, treasurer; Paul J. Laube, secretary; Donovan F. Ward and Joseph W. Lawrence, delegates, and Robert J. McNamara, Mansfield S. Lagen and Lincoln F. Steffens, alternates. With the exception of Dr. Griffin, Dyersville, all the men are from Dubuque.

### Iowa

Lawrence A. Miller, M.D., North English, was named president of the Iowa County Medical Society at the December meeting, held at Bill Zuber's Dugout, Homestead. Irvin J. Sinn, M.D., Williamsburg, was re-elected secretary-treasurer. Dr. Clyde F. Watts, Marengo, was named delegate.

### Lyon

Lyon County Medical Society met in Rock Rapids Hospital December 17 for its annual meeting. The new president succeeding Dr. Arthur C. Wubben is Dr. Howard H. Gessford, George. Dr. Stuart H. Cook was re-elected secretary-treasurer.

### Mitchell

Officers for the coming year were elected at the annual meeting of the Mitchell County Medical Society held December 10 in the home of William E. Owen, M.D., St. Ansgar.

### Page

George H. Powers, M.D., Shenandoah, was named president of the Page County Medical Society at the annual meeting held December 18 at Bradley's in Essex. Others elected are Drs. Earl N. Bossingham, Clarinda, vice-president; Stewart T. Ramsdell, Clarinda, secretary-treasurer; Philip L. Spencer, Essex, and Hans S. Fren-

kel, Clarinda, program committee, and Kenneth J. Gee, Shenandoah, and Dr. Spencer, delegates.

### Polk

Dr. James P. Priestley of the Surgical section, Mayo Clinic, Rochester, will discuss "Surgical Lesions of the Adrenal Glands" at the February 18 meeting of the Polk County Medical Society. The group will meet at the Savery Hotel, Des Moines, at 6:30 for dinner.

### Pottawattamie

Dr. Henning W. Mathiasen, Council Bluffs, was elected president of the Pottawattamie County Medical Society December 16 at the Hotel Chieftain, Council Bluffs. Dr. Fred H. Beaumont was elected vice-president and Dr. Arthur M. Pedersen was re-elected secretary-treasurer. Following the business meeting, special medical films were shown.

### Scott

Dr. Preston E. Gibson, past president, turned the gavel over to Dr. James W. Bishop, Davenport, at the January 6 meeting of the Scott County Medical Society, held at the Outing Club, Davenport. Dr. James W. Culbertson, director of the Cardiovascular Research Laboratory, University Hospital, Iowa City, was guest speaker.

### Tama

Dr. Charles W. Maplethorpe, Jr., Toledo, is 1953 president of the Tama County Medical Society. Officers, including Drs. Angelo B. Barbieri, Garwin, vice-president, and Al J. Havlik, Tama, secretary-treasurer, were elected at the December 30 meeting held at Dick's Cafe, Toledo.

### Taylor

Dr. Roger W. Boulden, Lenox, was elected president of the Taylor County Medical Society December 8 at a meeting held in the office of Dr. William H. Cash, Lenox. Dr. Cash is new vice-president, Dr. Harris C. Moore, Clearfield, is secretary-treasurer, and Dr. George W. Rimel, Bedford, was elected delegate.

### Wapello

Dr. L. S. McGoogan, University of Nebraska, Omaha, was guest speaker at the January 2 meeting of the Wapello County Medical Society held at St. Joseph's Hospital, Ottumwa.



### Woodbury

Dr. Robert C. Mugan became president of the Woodbury County Medical Society at the December 17 meeting, held at the Martin Hotel, Sioux City. Dr. Martin A. Blackstone was elected vice-president and Dr. Paul W. Osincup was re-named secretary-treasurer. Former vice-president Peirce D. Knott, Sioux City, was advanced to president-elect. They are from Sioux City.

### PERSONALS

**Dr. Robert Dunn**, formerly of Sumner, has joined **Dr. C. Ronald Roberts**, Dysart, as assistant. Dr. Dunn is a 1949 graduate of the St. Louis University School of Medicine. He completed a year of rotating internship and a year's residency at University hospitals, Iowa City.

**Dr. Herbert H. Kersten**, Fort Dodge native, has joined the Kersten Clinic staff, Fort Dodge. A 1943 graduate of the SUI College of Medicine, Dr. Kersten interned at Roper Hospital, Charleston, S. C. He has been a resident in surgery at University hospitals, Iowa City, since 1947.

**Dr. Robert P. Meyers**, formerly of Richmond, Va., has located in Ottumwa. Dr. Meyers was graduated from the SUI College of Medicine in 1937. After a year's internship at the University hospitals, he served a year as surgery intern in Richmond. The following year was spent there interning in pathology. In 1941 Dr. Meyers began four years of residence training in urology in Richmond hospitals.

**Dr. Richard L. Miller**, formerly of Akron, Ohio, has located in Waterloo for the practice of obstetrics and gynecology. Dr. Miller was graduated from the St. Louis University School of Medicine in 1945. He interned at Cook County Hospital, Chicago, and took a residency at Lying-In Hospital, Chicago, and City Hospital, Akron.

**Dr. Richard E. Munns**, formerly of Alden, has associated with the Hampton Clinic medical staff, Hampton.

**Dr. Robert W. Nicholson**, formerly of Superior, Neb., has located in Peterson. A former army doctor, Dr. Nicholson is a 1943 graduate of the Temple University School of Medicine, Philadelphia, Pa.

**Dr. Henry C. Scharnweber**, Boone physician for the past seven years, has moved to Poplar, Mont., to begin a new practice.

### MARRIAGE ANNOUNCEMENTS

Miss Myrtle Laura Fancher, Tucson, Ariz., and **Dr. Edwin J. Butterfield**, former Dallas Center physician, now of Tucson, were married December 24 in Tucson.

Miss Mary Margaret Howley, Des Moines, and **Dr. James J. DeBartolo**, Des Moines, were married December 31 in Des Moines.

### DEATH NOTICES

**Dr. Wallace Asbury Dunlap**, 74, Des Moines physician for nearly 50 years, died in his home December 12 of a cerebral hemorrhage. Dr. Wallace was graduated from the Drake University College of Medicine in 1903. He was a life member of the Polk County and Iowa State Medical Societies.

**Dr. Arthur Wright Erskine**, 67, noted Cedar Rapids radiologist, died at home December 10 of a stroke. Dr. Erskine was graduated from the Baltimore Medical College in 1908. After graduation he served a year's internship in the Maryland General Hospital, Baltimore, followed by graduate work at Johns Hopkins University Hospital. Dr. Erskine, a past president of the Iowa State Medical Society, was a member of the Society and the Linn County Medical Society until his death.

**Dr. Howard Hubbard Johnston**, 59, died at a Rochester, Minn. hospital December 13 after an illness of several weeks. A noted Hampton obstetrician and gynecologist, Dr. Johnston was graduated from the Chicago College of Medicine and Surgery, Chicago, in 1917. He was a member of the Franklin County and Iowa State Medical Societies at the time of his death.

**Dr. William Henry McCartney**, 77, a practicing Des Moines physician since 1905, died January 1 at his home after a brief illness. Dr. McCartney was graduated from the Chicago Homeopathic Medical College in 1904. He was a member of the Polk County and Iowa State Medical Societies at the time of his death.

**Dr. Elmer Ellsworth Morton**, 80, former Manning physician, died December 13 at the home of his son in Des Moines. Death followed a coronary thrombosis. Dr. Morton was graduated from the Keokuk Medical College, Keokuk, in 1898. He was a life member of the Carroll County and Iowa State Medical Societies.

**Dr. Joseph Clinton Powers**, 84, Hampton, died January 5 in the Hampton Lutheran Hospital. Dr. Powers was graduated from the Rush Medical College in 1897. He is a former member of the Franklin County and Iowa State Medical Societies.

**Dr. Channing Gamalial Smith, 75,** Granger, died December 21 in San Antonio, Tex., following a coronary occlusion. Dr. Smith, a past president of the Iowa State Medical Society, was graduated from the Drake University College of Medicine in 1902. Dr. Smith was a life member of the Dallas-Guthrie and Iowa State Medical Societies.

**Dr. Phillip Ganz Watters, 59,** Des Moines, died December 12 at Iowa Lutheran Hospital after being hospitalized for two weeks with a heart condition. Dr. Watters was graduated from the University of Nebraska College of Medicine in 1920. He was a member of the Polk County and Iowa State Medical Societies until his death.

### ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of December 10, 1952

Ackerman, J. H., Clarksville (Tallahassee, Fla.) ... Senior, Asst. Surg., U.S.P.H.S.	Neagle, P. E., Dubuque (Sault Ste. Marie, Mich.) ..... Capt., A.U.S.
Ashby, J. D., Davenport (Battle Creek, Mich.) ..... Major, U.S.A.	Nordin, C. A., Des Moines (Lackland Field, Texas) ..... 1st. Lt., U.S.A.F.
Bartholomew, R. D., Lake City (Walnut Creek, Calif.) ..... Lt. (j.g.), U.S.N.R.	Odell, J. E., Iowa City (Seattle, Wash.) ..... Lt., U.S.N.
Benge, D. K., Dows (APO San Francisco, Calif.) ..... Capt., U.S.A.	Paul, R. E., Des Moines ..... U.S.N.R.
Benton, J. S., Des Moines ..... 1st. Lt., A.U.S.	Puntenney, A. W., Boone (Portsmouth, Va.) ..... Lt., U.S.N.R.
Bogle, W. C., Marion (Great Lakes, Ill.) ..... Lt., U.S.N.R.	Ruble, R. L., Nevada (Camp Chaffee, Ark.) ..... A.U.S.
Braatellen, N. T., Des Moines (Camp Carson, Colo.) ..... 1st. Lt., U.S.A.F.	Saunders, R. J., Colfax (Great Falls, Mont.) ..... 1st. Lt., U.S.A.F.
Couchman, P. G., Des Moines (San Antonio, Tex.) ..... 1st. Lt., U.S.A.F.	Schlichtemier, E. O., Peterson (FPO San Francisco, Calif.) ..... Lt., U.S.N.R.
Davidson, M. C., Emmetsburg (El Paso, Tex.) ..... Col., A.U.S.	Schultz, M. H., Waterloo ..... Capt., U.S.A.F.
Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.) ..... 1st. Lt., U.S.A.F.	Shaffer, F. J., Iowa City ..... Col., U.S.A.F.
Dooly, J. E., Fort Dodge (Pleasanton, Calif.) ..... Capt., U.S.A.F.	Shuldberg, Arthur, Des Moines (Gunter AFB, Ala.) ..... 1st. Lt., U.S.A.F.
From, Paul, West Des Moines (San Antonio, Texas) ..... 1st. Lt., U.S.A.F.	Smith, C. B., Iowa City (Ft. Sam Houston, Texas) ..... Capt., A.U.S.
Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) ..... U.S.A.F.	Stutsman, R. E., Washington (Miami, Fla.) ..... Cmdr., U.S.N.
Greco, D. J., Des Moines (APO San Francisco, Calif.) ..... 1st. Lt., A.U.S.	Thistlewaite, E. A., Des Moines (Riverside, Calif.) ..... 1st. Lt., U.S.A.F.
Hickman, D. M., Indianola (Gunter AFB, Ala.) ..... 1st. Lt., U.S.A.F.	Thornton, F. E., Des Moines (Portsmouth, Va.) ..... Lt. Comdr., U.S.N.R.
Horton, R. R., Algona (Seattle, Wash.) ..... Lt., U.S.N.R.	Tice, W. K., Iowa City (Kansas City, Kan.) ..... 1st. Lt., A.U.S.
Jensen, K. V., Newton (El Paso, Texas) ..... Capt., U.S.A.F.	Troxel, J. F., Cedar Rapids (APO New York, N. Y.) ..... 1st. Lt., A.U.S.
Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) ..... Capt., U.S.A.F.	Vincent, J. F., Fort Dodge (Langley AFB, Va.) ..... Capt., U.S.A.F.
Johnson, M. H., Iowa City (APO New York, N. Y.) ..... Capt., A.U.S.	von Lackum, L. S., Oelwein (Great Lakes, Ill.) ..... Lt., U.S.N.R.
Kruse, R. H., Conrad (Pearl Harbor, T. H.) ..... Lt., U.S.N.R.	Voorhees, P. H., Ottumwa (Jamaica, N. Y.) ..... U.S.N.R.
Kuehn, W. G., Clarinda (APO San Francisco, Calif.) .... Lt. (j.g.), U.S.N.R.	Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) ..... Lt., U.S.N.R.
Kurth, R. J., Waterloo (Minneapolis, Minn.) ..... Capt., U.S.A.F.	Walz, D. V., Le Mars (Sioux Falls, S. D.) ..... 1st. Lt., U.S.A.F.
Leiter, E. R. K., Des Moines (Bangor, Me.) ..... Capt., U.S.A.F.	Wehrmacher, W. H., Iowa City (Oceanside, Calif.) ..... U.S.N.R.
Martins, J. K., Waterloo (New London, Conn.) ..... Lt., U.S.N.R.	Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.) ..... 1st. Lt., A.U.S.
Middleton, W. H., Central City (Quantico, Va.) ..... U.S.N.R.	*Wilkins, D. S., Iowa City (APO San Francisco, Calif.) ..... Capt., A.U.S.
Montgomery, A. E., Jefferson (Phoenixville, Pa.) ..... Lt. Col., A.U.S.	Witte, H. J., Marathon (San Francisco, Calif.) ..... Lt. Col., A.U.S.
Mulder, L., Sioux Center (Sioux Falls, S. D.) ..... Capt., U.S.A.F.	Young, R. A., Clarion (Ft. Sam Houston, Tex.) ..... Capt., A.U.S.
	Zeilenga, R. H., Orange City (Madison, Wisc.) ..... 1st. Lt., U.S.A.F.

### BLUE CROSS-BLUE SHIELD

(Continued from page 74)

We feel this comparatively new department of Blue Cross-Blue Shield is developing into one of its more important divisions. This is evidenced by the fact that other states are planning the establishment of a similar operation.

These men are employed to serve the profession and are available upon request to assist a physician with any problem relating to Blue Cross-Blue Shield.

### BLUE SHIELD MONTHLY STATISTICS

December 1, 1952

Enrollment .....	390,685
Claims Processed for Payment .....	6,930
Amount Paid in Claims .....	\$209,872.48



# Woodbury County Polio Award Presentation



*Dr. A. Q. Johnson, left, president of the Woodbury County Medical Society, is shown receiving a certificate of commendation from Basil O'Connor, president of the National Foundation for Infantile Paralysis.*

The doctors of Woodbury County were honored for their part in the gamma globulin field study which was conducted in Sioux City last summer. The award was presented at a dinner meeting early in December in Sioux City. Sponsored by the Chamber of Commerce, the dinner was attended by members of the County Medical Society, representatives of other groups which participated in the field trials, and guests from all parts of Iowa, Nebraska and South Dakota. The citation commends the doctors for their notable contribution to poliomyelitis research and expressed appreciation for their enthusiastic support of the County Society in encouraging the active participation of thousands of patients who joined with science to seek the preventive for paralytic poliomyelitis. The certificate praises the Medical Society for its leadership and contribution which gave the community inspiration and courage to pioneer for the nation and for all humanity, playing a part that may lead toward eventual control of poliomyelitis.

In accepting the award, Dr. Johnson said, "We of the Woodbury County Medical Society do not feel that we have done any more than any other Medical Society would have done under similar circumstances and as a medical group we were frightened, anxious and humble at the time the request came for us to participate in the gamma globulin study. We felt this way because of the terrible epidemic of polio that was ravishing our community and we felt keenly our responsibility for the medical care of the people."

Dr. Johnson complimented Dr. Hammond of the University of Pittsburgh for his well organized plan for conducting the test and for his development of an organization capable and ready to set up and test children.

Dr. Johnson shared the honor of this award with other Sioux City groups and individuals who participated in the study. He praised the Chamber of Commerce, City Council, the press and radio, nurses and community volunteers for their contribution during



the polio epidemic. He made mention of the doctors and enlisted men from the air base and of the activity of the wholesale and retail druggists who cooperated in restricting the sale of commercial gamma globulin.

Last, but not least, he commended the fathers and mothers who made their children available for the tests. The following is a direct quote from Dr. Johnson's statement: "We, the members of the Woodbury County Medical Society, feel that the way everyone cooperated . . . indicates that our people are . . . willing to make great sacrifices, . . . for everyone realized that the results of these tests held out hope that mankind everywhere might benefit from them."

"May your recognition of us here tonight serve to remind us of our continued responsibility to our community and may we always measure up to the expectations to such a degree that you and our community will be proud of us."

## MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

### BOARD OF TRUSTEES

Dec. 14, 1952

The Board of Trustees of the State Society met in the new building Sunday morning, December 14, with the following persons present: L. A. Coffin, J. W. Billingsley and W. L. Downing of the Board; B. T. Whitaker, president; R. N. Larimer, president-elect; A. B. Phillips, secretary; Drs. M. I. Olsen of Blue Shield, F. C. Coleman and Mr. Myers of the Legislative Committee; Dr. Bernard and Don Taylor.

Minutes were read and approved and bills were authorized; mileage for Don Taylor was readjusted and increased; division of his time and expense in 1953 was discussed and it was decided to divide it equally between Blue Shield and the State Society. Both he and Dr. Bernard reported on their past month's activity to the trustees.

The board authorized representatives to attend the conferences on industrial and rural health; the Committee on Maternal and Child Health to proceed with a cooperative program on school health; voted to increase the mileage allowance to eight cents per mile effective January 1, and drew up a tentative budget for 1953.

### ADVISORY COMMITTEE TO SELECTIVE SERVICE

Dec. 20, 1952

The Advisory Committee to Selective Service met at the Hotel Savery, Des Moines, December 20, with the following persons present: Donald C. Conzett, M.D., Dubuque; J. B. Kennedy, D.D.S., Walter L. Bierring, M.D., Hedvig Freden, R.N., and Mary McCord, Des Moines; Dr. Lee, veterinarian from Algona, and Colonel Lancaster and Major Gillespie from Selective Service. The group discussed future policy regarding induction of nurses, doctors of medicine, dentists and veterinarians.

### LEGISLATIVE COMMITTEE

Dec. 29, 1952

The Legislative Committee met at the Des Moines Club, Des Moines, December 29, with the following persons present: F. C. Coleman, J. W. Billingsley, J. D. Connor, B. T. Whitaker, A. B. Phillips, R. D. Bernard, Mr. I. W. Myers and Mr. Don Taylor. National legislation was discussed and it was decided to write our Congressmen in regard to specific bills. State leg-

islation was next discussed and a course of action decided upon.

### COMMITTEE ON MENTAL HEALTH

Jan. 7, 1953

The Committee on Mental Health met in the new building Wednesday morning, January 7, with the following persons present: John I. Marker, Leo B. Sedlacek, H. C. Merillat, G. R. Rausch and C. C. Graves, of the Committee; and R. D. Bernard. The Committee discussed what its attitude should be on increased appropriations for mental health and also how it should meet all of the requests for talks on mental health. It was decided that the Speakers Bureau should pay travel expense to the speakers and no honorarium should be charged the group making the request.

### EXECUTIVE COUNCIL

Jan. 7, 1953

The Executive Council entertained about 20 surgeons at dinner in the new building Wednesday evening, January 7, and discussed possible wording of the principles of medical ethics for clarification.

### BOARD OF TRUSTEES

Jan. 8, 1953

The Board of Trustees met at 8:00 Thursday morning, January 8, and authorized purchase of a space heater for the basement conference room; accepted a reference committee's recommendation in regard to ads of collection agencies; approved holding a conference of county presidents and secretaries during the legislative recess in March; gave final approval to the budget for 1953, and granted permission to the Public Health Nursing Association to use the basement committee room for classes.

### EXECUTIVE COUNCIL

Jan. 8, 1953

The Executive Council met at 9:30 Thursday morning, January 8, in the new building. Those present were Drs. Whitaker, Larimer, Phillips, Anderson, Coffin, Billingsley, Downing, Cretzmeyer, Morton, Brecher, Kersten, Housholder, Boice, Howell, Sayre, Alden, Conzett, Braunlich and Caughlan, of the Executive Council; F. C. Coleman and J. D. Conner of the Legislative Committee; Mr. I. W. Myers, Dr. Bernard, Don Taylor, Dr. T. F. Thornton and Dr. J. H. Spear-ing.

The Executive Council discussed the elaboration of medical ethics and clarified some of the wording; voted its appreciation to Drs. Conzett and Downing for the effort they have made in regard to the elaboration, and voted to send a copy to every member of the State Society, to the American Medical Association and to the American College of Surgeons. The new wording is to be effective on Feb. 1, 1953.

Dr. Coleman talked on legislative matters. After Dr. Conner discussed standards for hospital staff membership, the subject was opened for general consideration. Legislation being submitted by the College of Medicine in regard to cadavers was approved, and the group voted to invite the trustees of the Iowa Hospital Association to meet with it at an early date, with a representative of the American Medical Association and American Hospital Association also to be invited.

Each councilor was asked to procure more preceptors to activate the program next summer. The meeting adjourned at 2:30 p.m.



# *The* JOURNAL

*of the*

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, MARCH, 1953

No. 3

## IOWA STATE MEDICAL SOCIETY

*Organized in 1850*

### *1953 Annual Meeting*

**April 26-29**

**HOTEL FORT DES MOINES—DES MOINES, IOWA**

★

### **Program of General Sessions**

#### **Monday Morning, April 27**

##### *Grand Ball Room*

JOSEPH G. FELLOWS, M.D., Ames  
Presiding

##### 9:00 Greetings—

FLOYD M. BURGESSON, M.D., President, Polk  
County Medical Society

##### Response—

ELIAS B. HOWELL, M.D., First Vice-President,  
Iowa State Medical Society

##### 9:15 President's Address—

BEN T. WHITAKER, M.D., Boone, President,  
Iowa State Medical Society

##### 9:35 President-elect's Address—

ROBERT N. LARIMER, M.D., Sioux City, Presi-  
dent-elect, Iowa State Medical Society

##### 9:45 Awards of Merit—

LONNIE A. COFFIN, M.D., Farmington, Chair-  
man, Board of Trustees

##### 10:00 Occiput Posterior—

LEROY A. CALKINS, M.D., Professor of Obstet-  
rics and Gynecology, University of Kansas,  
Kansas City

##### 10:30 Recess to visit exhibits

##### 11:00 Diagnosis and Treatment of Carcinoma of the Stomach with Comments Relating to En- couraging Improvements in the Five Year Survival Rate—

HOWARD K. GRAY, M.D., Professor of Surgery,  
Minnesota Graduate School of Medicine,  
Rochester

##### 11:30 Intestinal Obstruction—

WARREN H. COLE, M.D., Professor and Head of  
Surgery, University of Illinois College of  
Medicine, Chicago

#### **Tuesday Morning, April 28**

##### *Grand Ball Room*

JOSEPH G. FELLOWS, M.D., Ames  
Presiding

##### 9:00 Diabetes Mellitus in General Practice—

HENRY T. RICKETTS, M.D., Professor of Med-  
icine, University of Chicago Medical School,  
Chicago

##### 9:30 Roentgenology in Obstetrics and Gynecology—

BENJAMIN FELSON, M.D., Professor of Radi-  
ology, University of Cincinnati College of  
Medicine, Cincinnati

##### 10:00 Recess to visit exhibits

##### 10:30 Recent Advances in Cardiac Surgery—

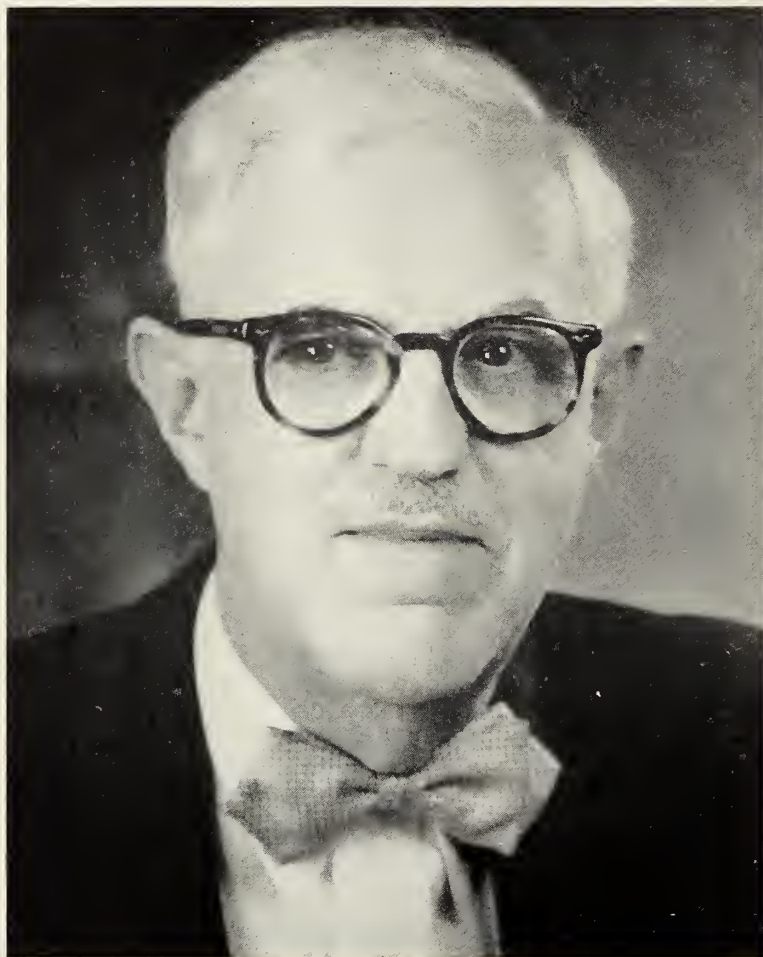
CHARLES P. BAILEY, M.D., Assoc. Professor of  
Surgery, Hahnemann Medical College, Phil-  
adelphia

##### 11:00 Address—

LOUIS H. BAUER, M.D., President, American  
Medical Association, Hempstead

##### 11:30 Fractures and Casts—

JAMES K. STACK, M.D., Assoc. Professor of  
Bone and Joint Surgery, Northwestern Uni-  
versity Medical School, Chicago



BEN T. WHITAKER, M.D.

*President*

*Iowa State Medical Society*

1952-1953



# Program of General Sessions

## Wednesday Morning, April 29

- 9:15 Medical Legal Problems in the Handling of Industrial Compensation Cases—  
EDWARD L. COMPERE, M.D., Assoc. Professor of Bone and Joint Surgery, Northwestern University Medical School, Chicago
- 9:45 Every Man His Own Physician—  
JOHN M. DORSEY, M.D., Professor of Psychiatry,

Wayne University College of Medicine, Detroit

- 10:15 Recess to visit exhibits
- 10:30 Pudendal Block Anesthesia in Obstetrics—  
J. ROBERT WILLSON, M.D., Professor of Obstetrics and Gynecology, Temple University School of Medicine, Philadelphia
- 11:00 Report of House of Delegates  
Installation of New President

# Program of Section Meetings

## MEDICAL SECTION

RAY J. HARRINGTON, M.D., Sioux City  
Chairman

### Monday Afternoon, April 27

#### *Midtown Roller Rink—11th & Walnut*

- 2:00 Pitfalls in Electrocardiography—  
DONALD J. WAGNER, M.D., Sioux City
- 2:30 Diagnosis and Management of Gastrointestinal Hemorrhages—  
GEORGE G. SPELLMAN, M.D., Sioux City
- 3:00 Recess to visit exhibits
- 3:30 Diagnosis and Management of Hemorrhagic Diseases—  
WILLIS M. FOWLER, M.D., Iowa City
- 4:00 Cirrhosis and Portal Hypertension—  
WILLIAM B. BEAN, M.D., Iowa City
- 4:30 Hemolytic Anemia—Diagnosis and Management—  
HAROLD MARGULIES, M.D., Des Moines

### Tuesday Afternoon, April 28

#### *Grand Ball Room*

- 2:00 Joint Meeting with Surgical Section  
Valvular Surgery—  
CHARLES P. BAILEY, M.D., Philadelphia
- 2:40 Discussion—  
JAMES W. CULBERTSON, M.D., Iowa City
- 2:50 Discussion—  
JOHANN L. EHREHAFT, M.D., Iowa City
- 3:00 Recess to visit exhibits
- 3:30 Serum Lipids in Relation to Atherosclerosis—  
HENRY T. RICKETTS, M.D., Chicago
- 4:00 Joint Meeting with Pediatric Section  
Bulbar and Respiratory Poliomyelitis—  
ABE B. BAKER, M.D., Professor of Neurology, University of Minnesota Medical School, Minneapolis
- Rehabilitation of Severe Poliomyelitis Paralytics—  
MILAND E. KNAPP, M.D., Clinical Professor of Physical Medicine, University of Minnesota Medical School, Minneapolis

## SURGICAL SECTION

WALLACE H. LONGWORTH, M.D., Boone  
Chairman

### Monday Afternoon, April 27

#### *Grand Ball Room*

- 2:00 Management of Common Duct Lesions—  
WARREN H. COLE, M.D., Chicago
- 2:45 Management of Traumatic Lesions of the Thorax—  
HOWARD K. GRAY, M.D., Rochester
- 3:30 Recess to visit exhibits
- 4:00 Uncommon Gastric Lesions—  
JOSEPH B. PRIESTLEY, M.D., Des Moines
- 4:30 Address (Title to be furnished later)  
CARROLL B. LARSON, M.D., Iowa City

### Tuesday Afternoon, April 28

#### *Grand Ball Room*

- 2:00 Joint Meeting with Medical Section  
Valvular Surgery—  
CHARLES P. BAILEY, M.D., Philadelphia
- 2:40 Discussion—  
JAMES W. CULBERTSON, M.D., Iowa City
- 2:50 Discussion—  
JOHANN L. EHREHAFT, M.D., Iowa City
- 3:00 Recess to visit exhibits—Reconvene in Midtown Roller Rink—11th & Walnut  
CARROLL B. LARSON, M.D., Iowa City  
Presiding
- 3:30 Problems That Arise in the Use of the Intramedullary Fixation Principle in Fractures—  
JAMES K. STACK, M.D., Chicago
- 4:00 The Selection of Patients for Gynecologic Surgical Procedures—  
J. ROBERT WILLSON, M.D., Philadelphia



LOUIS H. BAUER, M.D.  
*President*  
*American Medical Association*  
1952-1953



# Program of Section Meetings

## EYE SECTION

HENRY O. GARDNER, M.D., Waterloo  
Chairman

**Monday Afternoon, April 27**

*Green Room—Hotel Fort Des Moines*

- 2:00 Convergence Insufficiency—  
HERMAN M. BURIAN, M.D., Iowa City
- 2:45 Problems in Ocular Prosthetics—  
ALSON E. BRALEY, M.D., LEE ALLEN and HOWARD WEBSTER, Iowa City
- 3:30 Cause of Senile Cataract—  
ROBERT H. MONAHAN, M.D., St. Paul
- 4:00 Ocular Manifestations of Cranial Trauma—  
GEORGE S. ATKINSON, M.D., Oskaloosa

## EAR, NOSE AND THROAT SECTION

THOMAS R. UPDEGRAFF, M.D., Waterloo  
Chairman

**Tuesday Afternoon, April 28**

*Green Room—Hotel Fort Des Moines*

- 2:00 The Surgical Treatment of Chronic Sinusitis—  
CLIFFORD F. LAKE, M.D., Instructor in Otolaryngology and Rhinology, Mayo Foundation, Rochester
- 2:30 Discussion
- 2:40 Maxillofacial Injuries  
REX B. FOSTER, D.D.S., Waterloo
- 3:10 Discussion
- 3:40 Anesthesia in Otolaryngology  
STUART C. CULLEN, M.D., Iowa City
- 4:10 Discussion
- 4:20 Hearing Aids  
SCOTT REGER, Ph.D., Iowa City
- 4:50 Discussion

## OBSTETRIC SECTION

OTTO N. GLESNE, M.D., Fort Dodge  
Chairman

**Monday Afternoon, April 27**

*Des Moines Room—Hotel Savery*

- 2:15 The Importance of Postmortem Examination in Establishing the Cause of Fetal and Neonatal Death—  
EDITH L. POTTER, M.D., Assoc. Professor of Pathology, University of Chicago School of Medicine, Chicago
- 2:45 Discussion
- 3:00 Cervical Dystocia  
LEROY A. CALKINS, M.D., Kansas City
- 3:30 Discussion
- 3:45 Relative Roles of Radiation and Surgery in Treatment of Gynecologic Cancer  
HOWARD B. HUNT, M.D., Professor of Radiologic and Physical Medicine, University of Nebraska College of Medicine, Omaha
- 4:15 Discussion

## PEDIATRIC SECTION

EUGENE F. VAN EPPS, M.D., Iowa City  
Chairman

**Tuesday Afternoon, April 28**

*Blank Memorial Hospital*

- 2:00 Atelectasis and Other Pulmonary Disturbances Occurring in the Neonatal Period  
EDITH L. POTTER, M.D., Assoc. Professor of Pathology, University of Chicago School of Medicine, Chicago
- 2:45 Acute Miliary Lesions of the Lungs in Children—  
BENJAMIN FELSON, M.D., Cincinnati
- 3:30 Present Day Management of Erythroblastosis—  
D'ANNETTE SNYDER, M.D., Des Moines
- 3:40 Recess to Hotel Fort Des Moines
- 4:00 Joint Meeting with Medical Section—Symposium on Poliomyelitis. See program under medical section.



EDITH L. POTTER, M.D.  
*Chicago*



J. ROBERT WILLSON, M.D.  
*Philadelphia*



EDWARD L. COMPERE, M.D.  
*Chicago*



HOWARD K. GRAY, M.D.  
*Rochester*



CLIFFORD F. LAKE, M.D.  
*Rochester*



WARREN H. COLE, M.D.  
*Chicago*



## Special Luncheons and Dinners

**Monday, April 27**

### IOWA ACADEMY OF GENERAL PRACTICE

Luncheon—12:15 p. m.  
Palm Room—Hotel Fort Des Moines  
Reservations—Mrs. Elizabeth Nelson,  
3600 Franklin, Des Moines

### IOWA ASSOCIATION OF PATHOLOGISTS

Luncheon—12:15 p. m.  
Flamingo Room—Hotel Fort Des Moines  
Reservations—W. M. Rindskopf, M.D.  
Broadlawns Hospital, Des Moines 13

### PAST PRESIDENTS' LUNCHEON

Luncheon—12:15 p. m.  
Parlor A—Hotel Fort Des Moines

### OBSTETRIC SECTION

Luncheon—12:15 p. m.  
Des Moines Room—Hotel Savery  
Reservations—W. C. Keettel, M.D.  
University Hospitals, Iowa City

### BLUE SHIELD—BOARD OF DIRECTORS OF IOWA MEDICAL SERVICE

Breakfast—8:00 a. m.  
Flamingo Room—Hotel Fort Des Moines

### BLUE SHIELD—PARTICIPATING PHYSICIANS

Annual Meeting—5:00 p. m.  
Grand Ball Room—Hotel Fort Des Moines

### IOWA SOCIETY OF ANESTHESIOLOGISTS

Social Hour and Dinner—5:30 p. m.  
Arizona Room—Hotel Fort Des Moines  
Reservations—J. Fred Throckmorton, M.D.,  
Des Moines Bldg., Des Moines 9

### IOWA X-RAY CLUB

Social Hour and Dinner—5:30 p. m.  
Colonial Room—Des Moines Club  
Dinner by reservation only  
Abdominal Arteriography  
Benjamin Felson, M.D., Cincinnati

### IOWA PEDIATRIC SOCIETY

Social Hour and Dinner—5:30 p. m.  
Hermitage Room—Des Moines Club  
Speaker—Charles D. May, M.D., Iowa City  
Reservations: R. E. Dyson, M.D.  
Bankers Trust Bldg., Des Moines 9

### EYE, EAR, NOSE AND THROAT SECTION

Social Hour—5:00-7:00 p. m.  
Palm Room—Hotel Fort Des Moines  
Courtesy of the House of Vision, Des Moines

### AMERICAN MEDICAL WOMEN'S ASSOCIATION

Dinner—6:30 p. m.  
Arrangements to be announced later  
Guest—Edith L. Potter, M.D., Chicago

**Tuesday, April 28**

### ANNUAL BANQUET

Grand Ball Room—Hotel Fort Des Moines  
Social Hour—6:00 p. m.  
Courtesy of the Physicians & Hospitals  
Supply Co., Minneapolis  
Dinner—7:00 p. m.

**Wednesday, April 29**

### IOWA NEUROPSYCHIATRIC SOCIETY

Luncheon—12:00 noon  
Colonial Room—Des Moines Club  
Guest—John M. Dorsey, M.D., Detroit  
Reservations: H. C. Merillat, M.D.  
28th & Woodland, Des Moines 12

## House of Delegates

Open to all members

**First Meeting—Sunday Afternoon, April 26**

2:00 p.m.

*Grand Ball Room—Hotel Fort Des Moines*

Roll Call  
Approval of minutes of Wednesday morning session, 1952  
Reports of Officers  
Reports of Committee Chairmen  
Memorials and Communications  
New Business  
Election of Committee on Nominations

**Second Meeting—Wednesday Morning, April 29**

7:30 a.m.

*Grand Ball Room—Hotel Fort Des Moines*

Roll Call  
Reading of Minutes  
Report of Committee on Nominations  
Election of Officers  
Reports of Committees  
Unfinished Business  
New Business  
Announcement of Committees  
Adjournment

## GOLF TOURNAMENT

*Iowa State Medical Golf Association*

The annual tournament will be held April 26, 1953 at 10 a. m. at the Golf and Country Club, Des Moines, with dinner to follow. Please make reservations as early as possible with the chairman or co-chairman.

We want you to come and have a good time. Grace the occasion by your presence. There is always something to learn, and experiments are common in golf shots. Try your skill and luck.

H. J. McCoy, M.D.

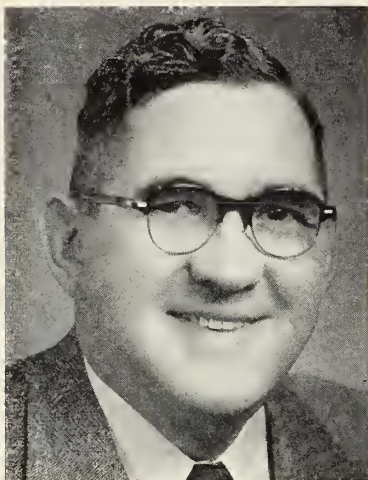
Bankers Trust Building, Des Moines

D. A. GLOMSET, M.D.

Equitable Building, Des Moines

## WOMAN'S AUXILIARY

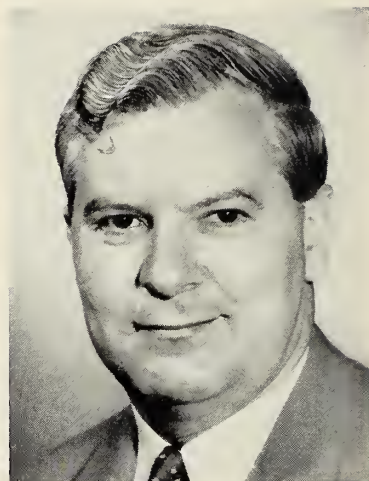
For program of the Woman's Auxiliary meeting, see page 110 of this *Journal*



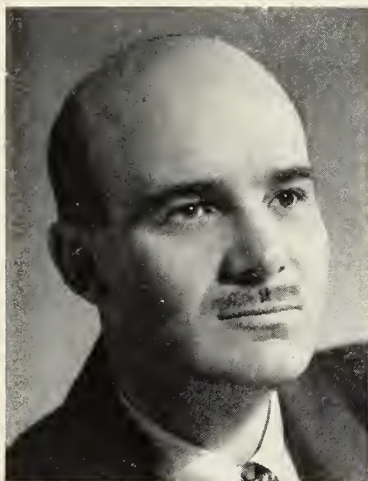
MILAND E. KNAPP, M.D.  
*Minneapolis*



ABE B. BAKER, M.D.  
*Minneapolis*



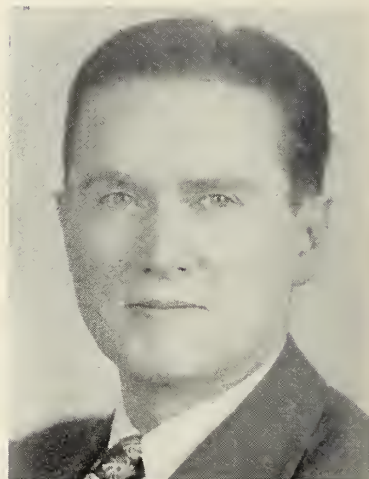
BENJAMIN FELSON, M.D.  
*Cincinnati*



JAMES K. STACK, M.D.  
*Chicago*



LEROY A. CALKINS, M.D.  
*Kansas City, Kansas*



JOHN M. DORSEY, M.D.  
*Detroit*



## 1953 Scientific Exhibits

Blank Memorial Hospital, Des Moines  
3 Scientific Exhibits

Blue Cross-Blue Shield, Iowa  
Lounge and Scientific Exhibit

F. C. Coleman, M.D., Des Moines, and  
John R. Schenken, M.D., Omaha  
1 Scientific Exhibit

College of Medicine—Iowa City  
18 Scientific Exhibits

Continuous Scientific Movies

Iowa Academy of General Practice  
1 Scientific Exhibit

Iowa Study Commission of Iowa  
Anesthesiological Society  
1 Scientific Exhibit

Claude C. Tucker, M.D., Wichita  
1 Scientific Exhibit

Veterans Administration—Dr. Palumbo  
2 Scientific Exhibits

Vocational Rehabilitation Division  
1 Scientific Exhibit

## List of Donors to Last Year's Golf Tournament

A. S. Aloe Company, St. Louis, Mo.  
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe,  
New York  
Ciba Pharmaceutical Products, Inc., Summit, N. J.  
Davidson Brothers Furniture Co., Des Moines  
Ford Hopkins Drug Company, Des Moines  
Hoffmann-La Roche, Inc., Nutley, N. J.  
House of Vision, Inc., Des Moines  
Katz Drug Company, Des Moines  
King's Pharmacy, Des Moines  
Lederle Laboratories Division, New York, N. Y.  
Lilly, Eli and Company, Indianapolis, Ind.  
Mead Johnson and Company, Evansville, Ind.  
Merck and Company, Inc., Rahway, N. J.  
V. Mueller and Company, Chicago, Ill.  
New Utica Clothing Company, Des Moines  
Pfizer, Charles, and Company, Inc., Brooklyn, N. Y.  
Philip Morris and Company, Ltd., Inc., New York, N. Y.  
Physicians and Hospitals Supply Co., Minneapolis,  
Minnesota  
Professional Management, Waterloo  
Seiler Surgical Company, Omaha, Neb.  
Smith-Dorsey Company, Lincoln, Neb.  
Squibb, E. R. and Sons, Long Island City, N. Y.  
Walgreen Drug Company, Des Moines  
Yunker Brothers, Des Moines  
Zemmer Company, Pittsburgh, Pa.

## 1953 Technical Exhibitors

A. S. Aloe Company, St. Louis, Missouri  
Ames Company, Inc., Elkhart, Indiana  
N. P. Benson Optical Company, Minneapolis, Minne-  
sota  
Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe,  
New York  
Ciba Pharmaceutical Products, Inc., Summit, New  
Jersey  
The Coca-Cola Company, Des Moines, Iowa  
Doho Chemical Corporation, New York, New York  
H. G. Fischer & Co., Franklin Park, Illinois  
C. B. Fleet Co., Inc., Lynchburg, Virginia  
General Electric Company, Des Moines, Iowa  
Hoffmann-La Roche, Inc., Nutley, New Jersey  
Holland-Rantos Company, Inc., New York, New York  
House of Vision, Inc., Des Moines, Iowa  
Kremers-Urban Company, Milwaukee, Wisconsin  
Lederle Laboratories Division, New York, New York  
Eli Lilly and Company, Indianapolis, Indiana  
J. B. Lippincott Company, Philadelphia, Pennsylvania  
M & R Laboratories, Columbus, Ohio  
Mead Johnson & Company, Evansville, Indiana  
Medco Products Company, Tulsa, Oklahoma  
Medical Protective Company, Fort Wayne, Indiana  
Merck & Company, Inc., Rahway, New Jersey  
V. Mueller & Company, Chicago, Illinois  
National Dairy Council, Chicago, Illinois  
National Drug Company, Philadelphia, Pennsylvania  
Ortho Pharmaceutical Corporation, Raritan, New  
Jersey  
Parke, Davis & Company, Detroit, Michigan  
Pet Milk Company, St. Louis, Missouri  
Charles Pfizer & Co., Inc., Brooklyn, New York  
Philip Morris & Co., Ltd., Inc., New York, New York  
Physicians & Hospitals Supply Co., Inc., Minneapolis,  
Minnesota  
Picker X-Ray Corp. of Iowa, Des Moines, Iowa  
Professional Management, Waterloo, Iowa  
A. H. Robins Company, Inc., Richmond, Virginia  
Sandoz Chemical Works, Inc., New York, New York  
W. B. Saunders Company, Philadelphia, Pennsylvania  
Schering Corporation, Bloomfield, New Jersey  
G. D. Searle & Co., Chicago, Illinois  
Security Laboratories, Burlington, Iowa  
E. R. Squibb & Sons, Long Island City, New York  
Standard Chemical Company, Des Moines, Iowa  
Sutliff & Case Co., Inc., Peoria, Illinois  
Ulmer Pharmacal Company, Minneapolis, Minnesota  
United Medical Equipment Co., Kansas City, Missouri  
The Upjohn Company, Kalamazoo, Michigan  
U. S. Vitamin Corporation, New York, New York  
Varick Pharmacal Co., Inc., New York, New York  
Williams Surgical Supply Co., Iowa City, Iowa  
Winthrop-Stearns, Inc., New York, New York  
The Zemmer Company, Inc., Pittsburgh, Pennsylvania

## CANCER PREVENTION APPLIED TO CARCINOMA OF THE COLON

RAYMOND J. JACKMAN, M.D.  
ROCHESTER, MINN.

IT HAS BEEN estimated that 12 per cent of all malignant tumors of the human body originate in the anus, rectum and sigmoid colon. This figure would probably approach 15 per cent, if one used the entire colon in the comparison rather than just its distal portion. Aside from cancer of the breast and cervix, malignant lesions of the terminal portion of the colon are the most frequent. They are on a par with neoplasms of the stomach and lungs.<sup>2</sup> Figures released from the Federal Security Agency in 1947 showed that 33,000 deaths were due to carcinoma of the colon that year. As the public is being made ever more cancer-conscious, the practice of cancer prevention as it applies to the large intestine becomes ever more important.

### EVIDENCE FOR THE ADENOMA-CARCINOMA SEQUENCE

To understand this problem better, one must study the development of cancer from its earliest stages. Certain definite evidence has accumulated during the past two decades which indicates that polyps (adenomas) of the large intestine are the forerunners of cancer of that organ. Whether or not all carcinomas of the colon originate from polyps, the time element involved in the transformation and the mechanism by which it is accomplished, are unknown or debatable factors. Some features are known, however, which strongly support the adenoma-carcinoma sequence in cancer of the colon. They are listed in the order of their significance.

1. *Polyps and Carcinoma of the Colon Are Frequently Associated.*—On sigmoidoscopy we frequently see one or more small polyps adjacent to a carcinoma. So frequent is this observation that we speak of the association as a "sentinel polyp." If a polyp is observed and no carcinoma is found within reach of the sigmoidoscope, a roentgenographic study of the colon is indicated to determine whether or not there are more polyps or a carcinoma above the level visualized with the sigmoidoscope. For further substantiation of the polyp-carcinoma association, it is noted that about 18 per cent of all resected specimens of carcinoma of the large intestine are found to have one or more polyps adjacent to the carcinoma.

2. *There Is a Close Parallelism Between the Location of Polyps and the Location of Carcinoma in Various Segments of the Large Intestine.*—From the standpoint of cancer prevention, it is fortunate that about 70 per cent of all polyps of the large intestine are within reach of the average sigmoidoscope. We physicians should take advantage of

this fact by using the sigmoidoscope more frequently than we do. Likewise, about 70 per cent of all carcinomas of the large bowel can be diagnosed with the sigmoidoscope.

3. *There Is a Close Parallelism Between Carcinoma and Polyps in Age and Sex Distribution of the Affected Patients.*—Ages 30 to 70 years, which have been called the cancer years, constitute the age span in which polyps as well as carcinoma of the large intestine are most frequently found. It should not be forgotten, however, that one of the commonest causes of rectal bleeding in infancy and childhood is a polyp or polyps of the colon. Polyps and carcinoma parallel each other in their sex distribution in a ratio of about 3 males to 2 females.

4. *Untreated Polyps Will Show Superimposition of Carcinoma on Subsequent Examination.*—Several instances have been described in which adenomas were known to exist and left untreated and in which a carcinoma subsequently developed where the polyp had been.

5. *The Condition Known as Familial Multiple Polyposis of the Colon Carries a High Complication Rate of Adenocarcinoma if Left Untreated.*—This disease entity is relatively rare, but when it is found, either complete colectomy or partial colectomy with ileosigmoidostomy and destruction of the polyps in the rectum and lower part of the sigmoid by fulguration, should be done.

6. *Polypoidosis and Subsequent Carcinoma Constitute a Fairly Common Complication of Chronic Ulcerative Colitis.*—Various authors present figures to show that in 10 to 20 per cent of cases of chronic ulcerative colitis, polyps of the colon develop during the course of the disease, and that many of these polyps progress to adenocarcinoma. It is estimated that adenocarcinoma of the colon is the cause of death in about 2.5 per cent of cases of chronic ulcerative colitis.

7. *Histopathologically, Many Small Polyps Which Grossly Appear to Be Benign Show Adenocarcinomatous Changes in Their Cellular Structure.*—With the foregoing evidence, there is substantial unanimity of opinion that most if not all carcinomas of the colon start out as polyps; and to practice cancer prevention as it pertains to the colon, the polyps should be found and destroyed.

### SYMPTOMS THAT LEAD US TO SUSPECT THE PRESENCE OF POLYPS

The commonest symptom is passage of blood from the bowel, but it by no means is peculiar to the presence of polyps. *Most small polyps and many early carcinomas of the colon are entirely asymptomatic.* Patients in the age bracket from 30 to 70 years who had no symptoms relative to the large intestine and on whom sigmoidoscopy was done as part of their routine annual physical examination, have been found by various authors to have polyps of the lower bowel, and in some instances early carcinoma, in from 10 to 20 per cent of the cases.

From the Section of Proctology, Mayo Clinic, Rochester, Minn.

Presented at the 1952 Annual Meeting, Iowa State Medical Society, Des Moines, April 28, 1952.



Of a series of 2,784 necropsies done at the Mayo Clinic in a five year period (1935 to 1939 inclusive) of cases in which the patients had died of some other condition not related to the colon (table 1), 14.7 per cent of the 1,757 males in the group and 9.0 per cent of the 1,027 females were

TABLE 1  
INCIDENTAL FINDINGS OF POLYPS IN 2,784 NECROPSIES, BY AGE AND SEX OF PATIENT

AGE OF PATIENT (YEARS)	Necropsies		Cases in which polyps were found			
	MALE	FEMALE	NUMBER		PER CENT	
			MALE	FEMALE	MALE	FEMALE
0-9	115	72	2	1	1.7	1.4
10-19	66	43	1	3	1.5	7.0
20-29	86	83	4	1	4.7	1.2
30-39	152	114	7	7	4.6	6.1
40-49	278	187	27	10	9.7	5.3
50-59	430	208	56	22	13.0	10.6
60-69	421	195	111	30	26.4	15.4
70-79	177	105	44	16	24.9	15.2
80-89	32	20	6	2	18.8	10.0
Total	1,757	1,027	258	92	14.7	9.0

found to have polyps of the large intestine.<sup>1</sup> Bear in mind that this study took in all age categories from newborn up to age 90. The peak incidence was found in the age group of 60 through 69, in which 26.4 per cent of 421 men and 15.4 per cent of 195 women had polyps. I believe it could well be assumed that the polyp would have eventually developed into a carcinoma, had these patients not succumbed to some other disease.

DIAGNOSTIC PROCEDURES AVAILABLE TO DISCOVER  
POLYPS OF THE COLON

If one keeps in mind that 70 per cent of all polyps of the large intestine are within reach of the average sigmoidoscope, that most small polyps do not give rise to any symptoms and that the peak age incidence for polyps is the sixth, seventh and eighth decades of life, the answer is quite clear. Many authors advocate routine sigmoidoscopic examinations annually on all patients during the so-called cancer years. If any polyps are found they should be removed either by fulguration or by excision. Roentgenographic studies of the colon should also be made to determine the presence or absence of polyps higher up in the colon. Whether or not it is practical to perform sigmoidoscopy on all patients during these three decades is another question, but I do feel that from the standpoint of cancer prevention there is no relatively simple diagnostic procedure that is more revealing.

In almost all instances, the sigmoidoscopy should precede the roentgenographic studies of the colon. For some strange reason the average practitioner usually turns first to roentgenographic studies of the colon. It should also be borne in mind that rectal bleeding is a symptom common to many lesions of the rectum, colon and anus, and not peculiar to any one lesion.

COMMENT  
If one accepts the concept of adenoma-carcinoma

sequence in the development of carcinoma of the large intestine; recognizes the fact that most small polyps in that location are asymptomatic; that about two thirds of the polyps occur within reach of the average sigmoidoscope, and that there is a 15 to 20 per cent incidence in adults in the age group of from 50 to 79 years, then we must become better acquainted with the diagnostic maneuver of sigmoidoscopy.

REFERENCES  
1. Baggenstoss, A. H.: Personal communication to the author.  
2. Jackman, R. J.; and Mayo, C. W.: The adenoma-carcinoma sequence in cancer of the colon. Surg., Gynec. & Obst., 93:327-330 (Sept.) 1951.

EARLY AND LATE  
COMPLICATIONS OF HEAD INJURIES  
WALTER D. ABBOTT, M.D.  
DES MOINES

THE MAJORITY of patients suffering from head injuries will recover with adequate therapy, but a keener recognition of complications will be rewarded with lower mortality. Certain common co-existent factors will be presented and appropriate treatment will be recommended.

TABLE 1

1. Drainage of blood or cerebral spinal fluid from the ears or nostrils.
2. Inadequate aeration and associated chest injuries.
3. Fractures of cervical, dorsal or lumbar spine.
4. Compound and depressed fractures of the skull.
5. Subarachnoid bleeding.
6. Injuries to the abdomen or genitourinary tract. Fracture of pelvis.
7. Fractures of shoulder, clavicle or extremities.
8. Convulsions: a. Localized (Jacksonian); b. Generalized.
9. Localized hemorrhage: a. Extradural; b. Subdural.

Drainage of cerebral spinal fluid from the ears and nostrils must be treated as an open wound. It is recommended, in cases where there is bleeding from the ears, that the ear be covered with sterile gauze pads which can be changed as indicated. The patient should also be kept on the bleeding side for blood to drain by gravity.

In cases where there is escape of blood or cerebral spinal fluid from the nares, the head should be elevated if the general condition permits, and the patient should be cautioned against blowing of the nose, as a subsequent meningitis or brain abscess may occur. The introduction of medications or nasal packs is not recommended unless the hemorrhage does not subside. It is obvious that early and intensive administration of antibiotics should be performed. Surgical repair of rhinorrhea is seldom justified before the seventh day, although there is some difference of opinion among various neurosurgeons in this matter.

REPORT OF CASE  
L. F., aged 19, was involved in auto accident Sept. Presented at the 1952 Annual Meeting, Iowa State Medical Society, Des Moines, April 29, 1952.

23, 1949, at which time he suffered laceration of the face, the right eye and fractures of the nose and right maxilla, with drainage of cerebral spinal fluid from the right nostril. The patient was comatose for three days. As the general condition permitted, his head was kept elevated and sterile gauze packs were changed frequently from their position over the draining nares. Large doses of antibiotics were administered. The drainage of cerebral spinal fluid subsided on the seventh postoperative day. Appropriate reduction of the fractures of the nasal bone and maxilla were then effected by maxillofacial surgery. The patient made an uneventful recovery without the need of plastic repair of the rhinorrhea.

The maintenance of proper aeration and the recognition of associated chest injuries is essential in saving lives. When the patient is suffering from respiratory difficulty and there is an accumulation of mucous in the bronchial tree, the prone lateral position is recommended. This is most satisfactorily maintained by elevating the foot of the bed and placing the patient in the prone lateral position with a pillow under the uppermost shoulder, so that fluid in the bronchial tree may drain by gravity. This also may be aided by the judicious use of suction apparatus. In some instances tracheotomy is indicated, as shown by the following case history.

#### REPORT OF CASE

F. H., aged 33, involved in an automobile accident in a town 120 miles from Des Moines, was sent to the neurosurgical service. While in the ambulance on the outskirts of the city, the patient developed complete mucous obstruction in the pharynx and difficulty with respiration. On admission, he was cyanotic and appeared to be in extremis. The sign of Babinski was present bilaterally and the patient was deeply comatose. When suction was used to aspirate the pharynx and the upper air was cleared, the patient continued to remain cyanotic. There was dullness of the left chest, with decreased movements of the left chest in breathing. Therefore, tracheotomy was performed by the laryngologist. Thick purulent material from the bronchial tree was removed through the tracheal opening. The cyanosis gradually became lighter. Repeated x-rays of the chest confirmed the clinical opinion of atelectasis with gradual improvement. Roentgenograms of the skull revealed no evidence of fracture. The patient made an uneventful recovery. It is believed that he would not have survived without the tracheotomy and clearing of the bronchial tree.

Associated injuries of cervical, dorsal or lumbar spine must be borne in mind, as attention is often directed solely to the head injury; and to the distress of all concerned, a fracture of the cervical spine is revealed at a later date. Early recognition of such a complication and subsequent adequate treatment may often be a factor in saving a patient's life.

#### REPORT OF CASE

L. S., a 50 year old man, was involved in an automobile accident on Dec. 9, 1949 at 10 p.m. When admitted to the emergency service, he was semi-conscious and extremely restless. Multiple abrasions of

the chest and extremities were noted. Neurological examination was negative, except for bilateral Chaddock reflexes. Cerebral spinal fluid studies were negative, except for the presence of a few red blood cells. He was treated for shock. The next morning roentgenograms revealed fracture dislocation of the fifth on the sixth cervical vertebra. At 1 p.m. on December 10, the orthopedic consultant advised reduction of the fracture, pending opinion of the neurosurgeon, who applied Crutchfield tongs with skeletal traction. At that time, no specific spinal cord involvement was evident, except for bilateral Chaddock reflexes. However, the patient died suddenly at 12:30 p.m., December 11. Permission for autopsy was denied. It was felt, however, that earlier recognition of the fracture dislocation of the cervical spine might have prevented this patient's death. This sounds a grim warning for early recognition and treatment of such associated injuries.

In all cases of associated fractures of the spinal column, with evidence of spinal cord compression, an alternating pressure mattress has been found to be of extreme value in preventing the dreaded decubital ulcers. It also has been a great help in nursing care.

#### COMPOUND AND DEPRESSED SKULL FRACTURES

It is recommended that early closure of compound skull fractures be effected as soon as the patient's general condition permits. If this can be done within six hours, primary closure of the wound can be carried out with the aid of large doses of antibiotics. Depressed fractures of the skull should be elevated when both tables are involved, but particularly over the frontal, temporal and parietal regions, to prevent a subsequent post-traumatic convulsive state. However, it is not believed necessary to elevate these fractures until the patient is out of shock and his general condition permits surgical intervention. When it is necessary to remove some of the bone, in a clean case of depressed skull fracture, the defect often can be covered with an appropriate size of tantalum plate and the wound closed primarily.

Associated trauma of the abdomen or genitourinary tract must always be suspected. If symptoms indicate such, general surgical or urological consultation is advisable. Often a fracture of the pelvis is overlooked. The possibility must be carefully checked if there is any evidence of local pain or blood in the urine. There is a difference of opinion in the management of retention of urine, but it is felt that the insertion of an indwelling catheter may be the procedure of choice, although the utilization of the Munro tidal drainage will lead to less frequent complications. Urologic consultation is strongly advised in such cases.

When fractures of the shoulders, clavicle or extremities occur, an early immobilization is recommended, but reduction of the fracture should be deferred until the status of the head injury has been clearly established and the patient's general condition has improved. Orthopedic consultation is recommended, with appropriate reduction of



the fracture when the optimum time is evident.

Convulsions may either be localized, Jacksonian in type (indicative of a focal cerebral injury); or generalized, as a result of a large contusion, laceration of the brain or focal hemorrhage. Convulsions can usually be controlled by the administration of barbiturates or the intramuscular injection of 1 to 2 cc. of sodium phenobarbital. In extreme cases, the intravenous administration of pentobarbital sodium,  $\frac{1}{2}$  to 1 cc. given over a period of 5 to 8 minutes, is advised. This may be repeated at a later date. The rectal use of chloral hydrate and potassium bromide is also of value, as is paraldehyde in the extremely restless patient.

#### BLOODY CEREBRAL SPINAL FLUID

It is recommended that all patients suffering from a head injury should at least have a diagnostic spinal puncture, with a careful recording of the color of the fluid, manometric pressure and red blood cell count of the centrifugal specimen. The pressure should be reduced to one half of the initial reading. It is recommended that this be repeated daily, or more frequently, as indicated by the difference in the vital signs. A knowledge of the existence or absence of blood in the cerebral spinal fluid often is of extreme value in determining the final settlement of medicolegal cases resulting from such an injury.

Localized hemorrhage of the extradural type usually is manifested by the history of coma; a lucid interval, then a relapse into coma, with signs of increasing intracranial pressure and evidence of focal cerebral involvement. However, the history may be obscured as to coma or lucid interval. Unilateral dilatation of the pupil suggests hemorrhage on that side of the brain. However, if possible, questioning of the relatives or friends should determine whether this might not have been a congenital anomaly. When the development of contralateral hemiplegia, with positive reflex and vital signs, is demonstrated, immediate surgical intervention to remove the hematoma and arrest the hemorrhage from the middle meningeal artery is mandatory. Acute subdural hematoma may present an almost similar chain of symptoms. Surgical intervention in the face of these increasingly sug-

TABLE 2  
LATE COMPLICATIONS

1. Chronic subdural hematoma.
2. Prolonged coma due to
  - a. Intracerebral hematoma or extensive cerebral contusion.
  - b. Stasis of cerebral circulation.
3. Convulsions.
4. Post-traumatic headaches or vertigo.
5. Post-traumatic psychosis.
6. Evaluation of organic intellectual impairment.

gestive signs is indicated. In this instance, without true localization, bilateral burr holes over the temporal areas should be inserted, as paradoxical homolaterality of the hematoma may often be present.

Chronic subdural hematoma often manifests it-

self from a few weeks to several months after an injury to the skull, which may have been trivial or severe. When there is a history of skull injury, regardless of how trivial it may have seemed; followed by a comparatively latent interval and, next, the development of bizarre personality changes or neurologic symptoms or findings, sub-

TABLE 3  
METHODS OF EVALUATION

1. Electroencephalography.
2. Pneumoencephalography.
3. Arteriography.
4. Psychometric evaluation.
5. Psychiatric consultation.

dural hematoma must be suspected. Usually there is an increase in cerebral spinal fluid pressure without a marked rise in the total protein content of the cerebral spinal fluid. It may be slightly xanthochromic. However, it usually is clear in the late cases. Pneumoencephalography, electroencephalography or arteriography may be utilized as diagnostic procedures.

#### REPORT OF CASE

C. H., a man aged 71, was involved in an automobile accident on Sept. 4, 1948. He suffered coma for only a few moments. X-rays of the skull were negative. Six weeks later, he developed severe pain in the suboccipital region, aphasia and a right hemiparesis. Examination revealed a blood pressure of 190/105 and the above mentioned aphasia and right hemiparesis. Cerebral spinal fluid was clear under a pressure of 290 mms. of water. There was a total protein of 40 mg. per cent. Because of the evidence of cerebral arteriosclerosis and the late onset, left carotid arteriography was performed, which revealed a space-occupying mass involving the left frontotemporal region. On Nov. 1, 1948, exploration over the left temporal area region showed a huge subdural hematoma. It was evacuated. It was noted that the brain was approximately 4 cm. from the inner surface of the dura, following evacuation of the hematoma. The patient made an uneventful recovery and a year later was completely free from symptoms.

The prolonged coma was due to intracerebral hematoma or extensive cerebral contusion. The patient had given a history of severe injury and failed to respond within the reasonable period of time. When existing localization, such as a hemiparesis or hemiplegia, papilledema, paresis or paralysis of the facial nerves (either local approach over the frontal or temporal region), remains in such instances, electroencephalography, pneumoencephalography or arteriography may be employed.

#### REPORT OF CASE

C. L., a 19 year old girl, was involved in an automobile accident Jan. 1, 1950. She remained comatose. When transferred to the neurosurgical service, there was a ptosis of the left eyelid, spastic hemiplegia and increased reflexes on the left and strongly positive left Babinski. This was suggestive of early papilledema. X-rays of the skull revealed multiple linear

fractures of the left parietal bone. Because of the possibility of a subdural hematoma or intracerebral bleeding, bilateral burr holes were placed over the temporal regions. However, no evidence of subdural hematoma was found. When the dura was opened on the right, the brain was under such increased pressure that a small rupture of the cortex occurred, with extrusion of necrotic brain tissue. Right subtemporal decompression was performed. The patient remained in a critical condition for several days and had a lengthy convalescence. She regained consciousness ten days postoperatively and gradually improved. Physiotherapy was instituted to the left extremities. When seen on June 6, 1950, she was doing well, with the exception of slight residual spasticity of the left extremities.

With stasis of cerebral circulation, some patients remain comatose and confused in spite of essentially negative neurologic examination. Electroencephalography or pneumoencephalography may be employed to determine the presence of a focal lesion. It is believed that pneumoencephalography may often have some beneficial effect, perhaps to the extent of a passive vascular exercise of the brain.

#### CASE REPORT

A. U., a girl of 16, was involved in an automobile accident March 27, 1950. She was unconscious for five days, and remained mentally confused. She also suffered a fracture of the nasal bone, a compound fracture of the left malar bones and both bones of the right leg, which were reduced as the general condition improved. However, her mental confusion persisted and, on April 13, 1950 the neuropsychiatric consultant felt that, because of the extreme confusion and restlessness, neurosurgical opinion should be obtained. On April 21, 1950 pneumoencephalography was performed and 85 cc. of fluid were replaced with an equal amount of oxygen. The films were interpreted as being normal. However, in a few days the patient improved and became lucid. She was dismissed on May 7, 1950. When seen on July 10, the patient was clear and apparently was making an uneventful recovery. It is felt that the pneumoencephalography may have been of some benefit in this case.

#### CONVULSION

It is estimated that a post-traumatic state may occur in from 1 to 2 per cent of severe head injuries. The procedure of investigation again is electroencephalography, pneumoencephalography or arteriography, as indicated. It is thought that pneumoencephalography, in some instances, has therapeutic value. When evidence of a focal lesion is eliminated, anticonvulsant therapy is indicated. The patient should be urged to follow a regular routine, avoiding excess in any form. Focal convulsions can occur from indriven bone fragments or space-occupying lesions, such as subdural hematoma or intracerebral clot. Proper surgical measures may be necessary to correct this condition. The resection of scar tissue following penetrating wounds of the brain is not always associated with too satisfactory results. Brain abscess

following fractures of the cribiform plate of frontal sinuses should be evacuated when the diagnosis is clearly established.

Post-traumatic headaches, vertigo and tinnitus often present a most disturbing and distressing problem to patient and physician. Various factors may be encountered from the compensation angle (psychiatric or psychological maladjustment). The persistent pain is extremely difficult to evaluate. In the hemicranias, the administration of ergotamin tartrate or caffeine citrate orally has been of value. The antihistaminic drugs or histaminic desensitization have also been of benefit to some patients. Unilateral or bilateral novocaine injection of the cervical sympathetic ganglia has often afforded relief of the distressing symptoms. Persistent occipital pain and tenderness may be alleviated by the injection of the greater and lesser occipital nerves. When weak neck flexor muscles are manifest, carefully supervised neck flexion exercises have been of relief to certain patients. The use of the salt-free or restricted salt diet in cases of vertigo and tinnitus has afforded some relief of symptoms. When there has been a basal skull fracture with an escape of bloody cerebral spinal fluid from the ear, it is always advisable from a medicolegal standpoint, as well as for a guide to some adjustment for rehabilitation, to have audiometric tests to evaluate the limit of loss of hearing the patient has suffered.

#### EVALUATION OF ORGANIC INTELLECTUAL IMPAIRMENT

This is of extreme importance from the medicolegal standpoint, as well as in estimating the ultimate prognosis of a patient suffering a severe and lasting brain injury. Electroencephalography often is of value, in addition to psychometric studies evaluated by a competent psychiatric consultation.

#### REPORT OF CASE

F. W., a man aged 33, was injured in an auto-train collision Oct. 18, 1950. He was in profound shock and suffered respiratory difficulty to the extent that tracheotomy was necessary. He then developed dilatation of the left pupil. Exploration for middle meningeal hemorrhage was negative; however, subtemporal decompression on the right was performed. The patient was given a series of bilateral cervical sympathetic novocaine injections in an effort to increase the blood supply to the brain. His condition gradually improved except that he had occasional convulsions and right hemiparesis, with little realization of his surroundings. Electroencephalographic studies revealed a nonspecific tracing consistent with severe head injury. Psychological evaluation indicated confusion in thought process. The psychiatric consultant felt that there was extensive organic brain damage and an extremely poor prognosis. This patient has made no progress since regaining consciousness in November of 1949. The buccal reflex of Toulouse and Verpas has persisted. This is elicited by gently tapping the upper lip. As evidence of organic deterioration, the patient responds with a sucking movement, as seen in a nursing infant. The persistence or remission of such a re-



flex has been of value in observing the degenerative process or in determining, to some degree, improvement in organic intellectual process.

#### REPORT OF CASE

N. S., a girl of 16, was involved in an automobile accident on April 28, 1950, sustaining a right acute subdural hematoma. This was evacuated and a right subtemporal decompression was performed. She was unconscious for five weeks, but improved with the use of nicotinic acid orally and novocaine infiltration of the cervical sympathetic ganglia to a degree that there is only a residual left hemiparesis. An electroencephalogram on August 9, taken because of continued mental confusion, revealed absence of localization in spite of residual left hemiparesis. Psychometric studies showed definite organic intellectual impairment, indicating that the ultimate prognosis was poor. However, the buccal reflex gradually disappeared. This patient has shown a remarkable improvement in the past month.

#### SUMMARY

Various common complications of head injuries have been presented in an effort to effect earlier recognition and management of such, to reduce the more unfavorable results to a greater degree.

### THE MANAGEMENT OF GASTROINTESTINAL HEMORRHAGE

THOMAS F. THORNTON, JR., M.D.  
WATERLOO

BLEEDING FROM the gastrointestinal tract is a common occurrence and frequently the cause of great concern to the physician and patient. Under ordinary circumstances, massive hemorrhage is due to benign lesions. It may be a difficult therapeutic problem because of the enormity of the blood loss. On the other hand, small, persistent blood loss is the most significant bleeding for, unfortunately, patients with it may have malignant lesions.

The blood loss may occur from any part of the gastrointestinal tract. A careful history will usually determine the probable origin of the bleeding. Vomiting of blood or coffee ground material indicates hemorrhage from the esophagus or stomach. Melena or tarry stool occurs with bleeding from the esophagus, stomach and small bowel. Bright red blood ordinarily means the colon is the site of bleeding. If the red blood is mixed with the stool, it comes from above the rectum. Bright red blood streaked on the stool indicates hemorrhoidal bleeding. Slight but persistent loss of blood, resulting in profound anemia, occurs with malignancies of the stomach and colon.

The ordinary blood counts, urine analysis and general physical examination should be made to rule out systemic disorder, such as pernicious anemia, leukemia, bleeding tendencies, etc. Special studies helpful and generally available include x-

rays of the stomach and colon, gastric analysis, examination of the stools for blood and proctoscopy. With these simple studies the diagnostic problems in practically all cases of gastrointestinal bleeding are resolved.

Esophageal hemorrhage is frequently massive. It ordinarily is due to varices. Carcinoma rarely causes significant bleeding, as obstructive signs develop early. The diagnosis of varices is not difficult if one finds other evidence of cirrhosis. X-ray studies show a wormy appearance. The medical treatment consists of absolute rest, with parenteral feedings and blood transfusions. The definitive surgical treatment is varied and no course of therapy for an individual case can be outlined. Surgical measures to relieve the portal hypertension and esophagogastric resection to interrupt the vessels are most commonly used at the present time.

Bleeding from the stomach and duodenum is usually due to malignant tumors and benign ulcers. The ulcer may be gastric or duodenal, or due to a diaphragmatic hernia. In general, carcinoma infrequently causes massive blood loss. The finding of occult blood in the stool is an important diagnostic sign. The following case history is typical for carcinoma of the stomach.

#### CASE REPORTS

*Case 1.* E. R., a 56 year old farmer, was admitted to St. Francis Hospital, Waterloo, on Oct. 2, 1944 with the history of epigastric pains, anorexia and loss of 10 pounds in the past 6 weeks.

General examination was negative except for a hemoglobin of 52 per cent and red blood count of 3.75. The stool and gastric fluid specimens showed 4+ occult blood. There was no free gastric acid. X-ray showed a large carcinoma of the stomach, which was removed by a subtotal gastric resection. The patient has remained well to date, without evidence of recurrence. This patient gives the typical history of a carcinoma of the cardia of the stomach or cecum, in which a large lesion may have developed without causing obstructive symptoms, with the symptoms of anemia calling attention to the illness.

Blood loss due to benign ulcers may also be slight but persistent. Not infrequently massive hemorrhage occurs. At times the treatment may be a vexing problem, as illustrated by this case.

*Case 2.* H. H., a 37 year old foundry worker, was admitted to St. Francis Hospital on Dec. 29, 1951 with a history of 10 years of severe crampy epigastric pain. The patient was 5 feet 6 inches tall and weighed 275 pounds. He had been drinking up to 6 quarts of milk a day. Examination showed the obesity, rather generalized abdominal tenderness, moderate hypertension with a high diastolic pressure, and a pulse of 100. X-rays suggested a duodenal ulcer, but electrocardiogram showed rather marked myocardial degeneration. There was no occult blood in the stool. The gastric analysis showed normal acid. It was thought that the patient was a poor surgical candidate because of the obesity and hypertension. It was extremely difficult to evaluate the pain. Two weeks of intensive medical

management seemed to be ineffective. At the patient's request, he was transferred to a veteran's hospital. During the first day at the hospital he began to hemorrhage profusely. Despite massive blood transfusions, he did not respond. Death occurred within 24 hours. Autopsy showed a chronic duodenal ulcer to be the source of the hemorrhage.

Despite the result obtained in this case, the treatment of duodenal ulcer is basically a medical problem. Most of our patients with massive bleeding are placed on bed rest. If not vomiting, they are fed an ulcer diet, with frequent feedings and antacid. Atropine is used routinely, and the patient usually receives banthine, resinat or kutrol. Blood transfusions are used freely. Surgery is reserved in the acute stage for those who fail to respond to this management. If bleeding continues, gastric resection is done.

*Case 3.* T. C., a 60 year old man, was admitted to St. Francis Hospital on February 6, 1951 with a classical ulcer history of at least 40 years duration. He had experienced several minor bleeding episodes and had not worked for some time because of pain. The day of admission he developed hematemesis, melena and fainting spells. On admission to the hospital his blood pressure was 90/70, pulse 120. The red blood count was 3,000,000. During the next 4 days he received 9 pints of blood and parenteral protein feedings. Despite this therapy he continued to have melena and appeared to be losing ground. A subtotal gastrectomy was therefore done. A gastric ulcer was found to be the site of bleeding. No duodenal ulcer was found. He recovered promptly and has been well since.

In cases of gastric ulcers and in all cases of ulcers that bleed repeatedly, definitive surgical therapy is advised. The most common method of treatment is gastric resection, but in certain instances vagotomy may be attempted.

*Case 4.* H. B., a 42 year old farmer, was admitted to St. Francis Hospital on Aug. 4, 1947 with a 15 year history of epigastric distress, typical of ulcer. On several occasions he had noticed black, tarry stools. Two weeks before this present entry to the hospital, he noted sudden hematemesis and melena. The melena continued and he became weaker. Upon admission, hemoglobin was 38 per cent and the red blood count was 2,070,000. He was treated medically and given six whole blood transfusions. The bleeding ceased. X-rays showed a typical duodenal ulcer deformity. He was dismissed on Aug. 20, 1947. He was readmitted on Sept. 25, 1947, when a transthoracic vagotomy was performed. He recovered promptly and has been free of ulcer symptoms and melena since. Stomach x-ray on Feb. 7, 1949, 18 months after the vagotomy, showed a healed ulcer. This patient developed no obstructive symptoms postoperatively. However, today we would prefer to do an abdominal vagotomy with gastroenterostomy. Vagotomy would be especially useful in a stomal ulcer with hemorrhage.

Small bowel hemorrhage usually is due to an ulcer in a Meckel's diverticulum or tumor. It is

frequently massive and often appears at the rectum as cherry-colored rather than black or bright red. Profound hemorrhage in young individuals suggests a small bowel lesion.

The common cause of colonic and rectal bleeding is hemorrhoids. However, if the blood is streaked on the stool or there is bleeding mixed with the stool, it is significant. Most instances of benign bleeding from the colon are due to polyps, diverticulitis and ulcerative colitis. The next two cases demonstrate benign lesions.

*Case 5.* D. C., a 24 year old housewife, was admitted to St. Francis Hospital on Oct. 22, 1951 with a long history of chronic ulcerative colitis. She had been under treatment for two years and was unable to maintain her weight and red blood count, despite frequent transfusions due to a persistent bloody diarrhea. At one time she seemed to become much worse when given cortisone. Finally she began to develop rectal fistulae and polyarthritis, requiring frequent transfusions. On Nov. 15, 1951, the entire colon, with the exception of the rectosigmoid, was removed and an end ileostomy done. Recovery was slow but complete. She has gained 30 pounds since the operation. Her blood count remains normal. She is now awaiting the removal of the rectum. Abdominal perineal resection was performed on June 17, 1952. The patient has been well since.

*Case 6.* C. A., a 56 year old housewife, was admitted to St. Francis Hospital on Jan. 26, 1952 with the history of passing bright red blood per rectum off and on for 4 months. There was practically no mucus in the movement and there had been no change in bowel habits. General examination and the routine laboratory work were negative except for a rather marked hypertension. Proctoscopy revealed a large pedunculated polyp. X-rays taken after a barium enema showed an irregular narrowing of the upper rectum, diagnosed as probable polypoid carcinoma. At exploratory laparotomy performed on Jan. 31, 1952, numerous adhesions were found in the pelvis. The sigmoid was finally freed to a densely scarred area on the upper rectum that was frozen to the pelvis. The sigmoid colon was therefore opened and a benign pedunculated polyp was removed. The narrowing in the rectum was an inflammatory structure. The patient recovered promptly and has had no bleeding since. Final diagnosis: benign pedunculated polyp sigmoid. The rectal structure was most probably due to lymphogranuloma.

Most colonic bleeding, however, is due to carcinoma. Following is the report of a case that was mismanaged.

*Case 7.* G. C., a 48 year old housewife, was admitted to St. Francis Hospital on March 26, 1949 because of a sudden episode of bright rectal bleeding that occurred following a bout of diarrhea. She was treated with bed rest for 4 days, during which time all symptoms subsided. Proctoscopy, stomach and colon x-rays were then done and reported as negative.

Unfortunately, this patient was not seen again until Sept. 27, 1951, at which time she again had a sudden massive passage of bright red blood per rectum. This time she had definite obstructive symptoms, but was



eating well and had not lost weight. Proctoscopy and x-ray at this time showed an annular constriction of the lower sigmoid colon. At operation, a constricting carcinoma of the sigmoid was removed and an end-to-end anastomosis was performed. The patient recovered promptly and has done well since, but it is unfortunate that there was so much delay in diagnosis. We were misled because the bleeding was massive and not persistent.

#### SUMMARY

Actually, the common causes of gastrointestinal hemorrhage are few. They include esophageal varices, peptic ulcer, tumors of the stomach, small bowel or colon, ulcerative colitis, polyps of the colon and hemorrhoids. Medical management is frequently effective in the treatment of esophageal varices and peptic ulcer, unless the ulcer is due to hiatus hernia or Meckel's diverticulum. Conservative treatment is not without risk, as shown by case 2. It has the further disadvantage that the bleeding may recur and that a gastric ulcer may be malignant. Further, the use of massive blood transfusions has an element of danger. The occasional human error cannot be completely removed and homologous serum jaundice remains a problem. For these reasons definite surgical treatment is sometimes indicated during the acute bleeding episode. It should certainly be considered in ulcer patients with repeated hemorrhage.

The surgical treatment of the other lesions mentioned, with the exception of esophageal varices, is quite satisfactory and should be considered the treatment of choice.

### THE VENEREAL DISEASE CONTROL PROGRAM IN IOWA

RALPH H. HEEREN, M.D.  
LUCY DIPPERT, R.N.  
ABRAHAM GELPERIN, M.D.

AND

WALTER D. PLUDE  
DES MOINES

THE VENEREAL DISEASES in Iowa remain a major problem even though the incidence has been declining for the past five years and potent chemotherapeutics are at hand. In particular, syphilis, a major cause of disability in previous decades, can now be adequately controlled. However, the fact that the majority of such patients are now seen, diagnosed and treated by general practitioners rather than by a few venereal disease specialists and the venereal disease clinics, merits the serious consideration of all practicing physicians. The doctors throughout the state see and care for the patient with syphilis or gonorrhea.

A basic fundamental in the control of the venereal diseases is the uncovering of foci of infection and their sterilization by adequate therapy. Con-

tact investigation is a most important segment of venereal disease prevention. Ferreting out the unknown infected sex contacts of the patient in order to prevent spread of disease is of importance to both the public health and the practicing physician.

It will therefore be the purpose of this paper to (1) give a brief outline of the venereal disease control program of the Iowa State Department of Health, outlining the services and facilities made available to the physician by the program, and to (2) present three epidemiologic investigations which will demonstrate what can be accomplished through private physician-health department co-operation in venereal disease control procedures in an area of the state where physicians are familiar with the program.

The chief precept of the venereal disease control program of the Iowa State Department of Health is that venereal disease can and should be cured before being spread from those already infected to healthy persons in the community. The purpose of the program, therefore, is to assist as many infected persons as possible to obtain early effective medical care and to provide prompt follow-up of their sex contacts. This is accomplished in one of two ways: (1) through the follow-up of contacts of cases reported to the State Department of Health by physicians and (2) through a review of positive serologic reports received from the State Hygienic Laboratory on cases already under a physician's care.

The majority of persons who seek medical care for a venereal infection do so on their own initiative. However, others who are deterred by ignorance, lack of symptoms and/or ephemeral lesions, carelessness, fear or other reasons, are found and examined only through special contact tracing and case finding efforts. The three basic case finding methods employed in venereal disease control are (1) contact investigation of the sex partners and members of families of venereal disease patients; (2) screening examinations of large groups of the population such as provided by the prenatal and premarital examination laws and pre-employment physical examinations and (3) case-finding education which stimulates persons who suspect they may have a venereal disease to seek diagnosis of their own initiative.

The Iowa State Department of Health employs all three of these case finding methods. The success of its efforts, however, varies in direct proportion to the degree of cooperation received from the practicing profession. In 40 counties of the state, the services of public health nurses who are trained in the technics of patient interviewing in order to elicit information pertinent to the identification of all individuals exposed to infection, are available. These nurses, as part of their generalized nursing program, visit those persons named as having been exposed and persuade them to go





disease control officer are available. The nurse is a State Department of Health employee assigned to the county; the venereal disease control officer is a city health department employee. This team is a good example of the cooperative program which is operated jointly by the state and counties. The studies presented are the result of their combined efforts in cooperation with physicians.

In chart 1, the original case was diagnosed July 7, 1950 as having early latent syphilis. On July 8 the public health nurse and venereal disease control officer began the investigation of her named contacts. Between that date and August 25, when the investigations and examinations were concluded, 15 additional cases of syphilis had been identified, all of which could be linked either directly or indirectly to the original case. Of these 15 cases of infectious syphilis, nine were diagnosed as primary, one secondary and five early latent. This study shows quite clearly the results of persistent and complete investigation of all contacts. Beginning with only the one case, good epidemiology resulted in the identification and treatment of 15 additional cases among the 37 individuals examined as suspects in the chain of infection.

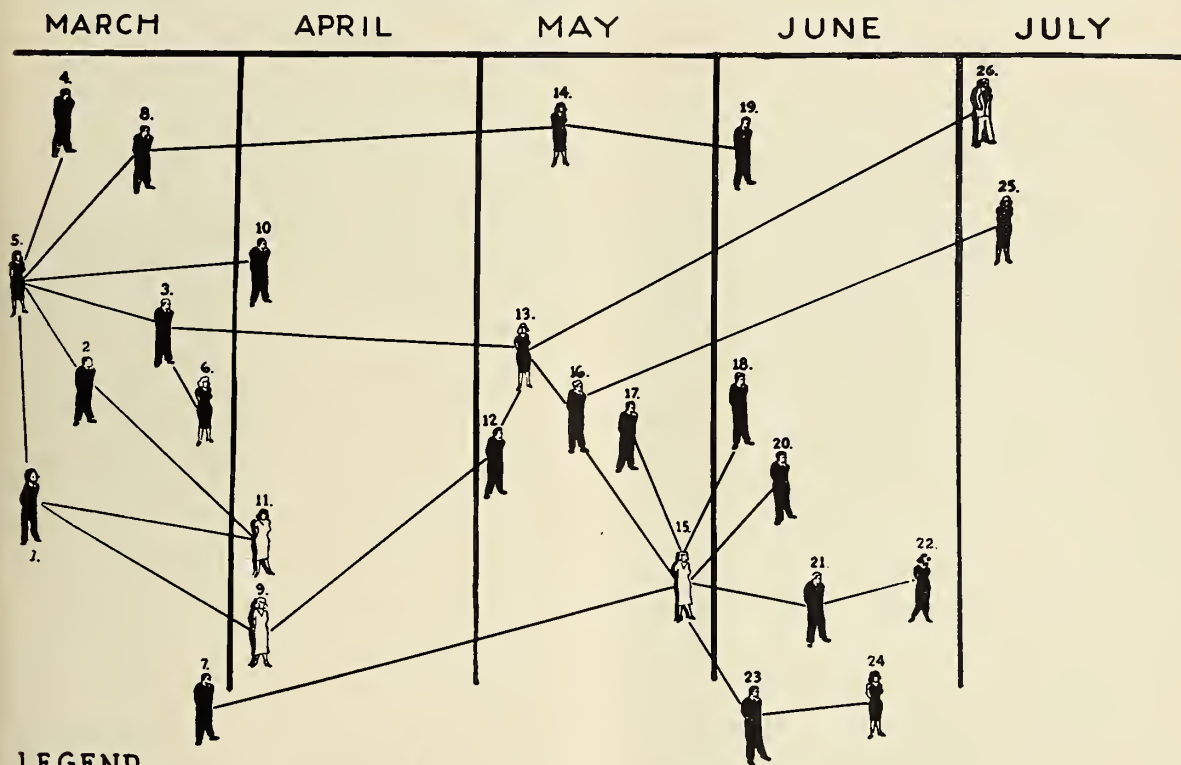
The cases in chart 2 are presented in the chronological sequence in which they were diagnosed in order to show the period of time frequently covered by chains of infection. The chart also, due to limited space, presents only those contacts which were found to be infected. The original cases, numbers 1 and 2, were both diagnosed as primary syphilis on March 12, 1951. On March 13, 1951, the public health nurse and venereal disease control officer began their interviewing and contact investigations. Their efforts resulted in the naming of 193 contacts and the location of 24 additional cases of syphilis, all infectious (17 primary, three secondary and four early latent).

The key person in the study, number 5, a prostitute, was described by cases 1 and 2. She was located and hospitalized with a diagnosis of secondary syphilis within 24 hours after she had been named as a possible source of infection. Through repeated interviews both in the hospital and back in the field after completion of her treatment, she named or aided in identifying 46 contacts.

This study proved the value of reinterviewing

CHART NUMBER II

### EPIDEMIOLOGICAL STUDY-BROADLAWNS VENEREAL DISEASE CLINIC - 1951



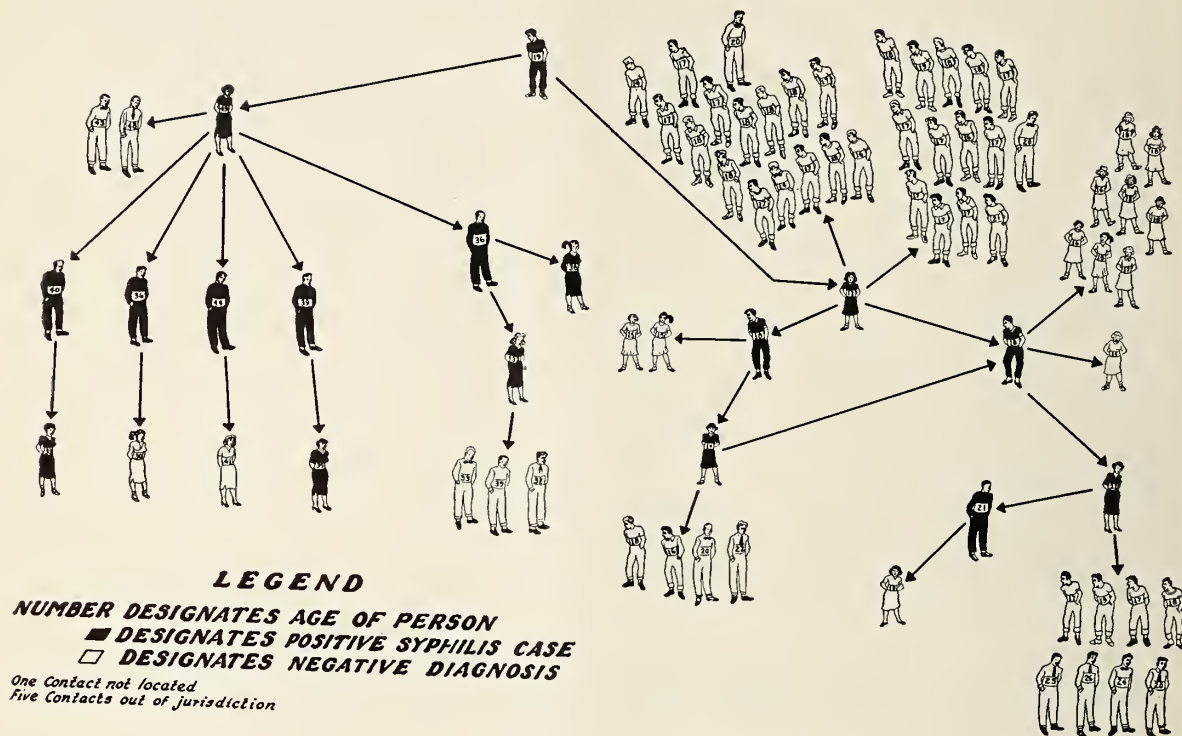
#### LEGEND

Primary and secondary syphilis—

Early Latent syphilis - - - - -

23 epidemiological interviews produced 193 contacts named, a contact ratio of 8.4

**CHART NUMBER III**  
**EPIDEMIOLOGICAL STUDY POLK COUNTY 1952**



patients when and wherever possible, inasmuch as nearly all of the promiscuous persons involved in the study continued to name contacts long after the original interview.

Chart 3 shows the necessity for locating infected persons while in the early stages of the disease, in order to reduce their period of infectiousness to a minimum. This would result, of course, in a reduction in the number of infections among their contacts.

This study began in October of 1951 with the 19 year old male at the upper part of the chart, whose diagnosis was primary syphilis. He named two contacts, a 49 year old woman and a 12 year old girl. Epidemiologic investigations and follow-up were completed in May of 1952.

On the upper left hand side of the chart is the 49 year old woman who was found to have early latent syphilis. She named eight contacts, six of whom were found to be infected. The right hand center portion of the chart shows the 12 year old girl, whose diagnosis was primary syphilis, six weeks after her initial examination. She named a total of 33 contacts, of whom only three were found to be infected. The older woman had passed through all of the stages of infectiousness and therefore had a longer period of time during which to spread her infection. The younger girl, although even more promiscuous, was examined and treated so soon after the development of her first lesion

that her period of infectiousness was reduced to a minimum.

While the chart does not show it, the 12 year old girl was infected on three separate occasions during this study. Her 18 year old contact on the right had two infections. All five infections in these two persons were diagnosed as primary syphilis.

It is interesting to note that of the 78 cases and contacts presented in this study, 50 were under 20 years of age. As in the previous study, these localized epidemics of infectious syphilis seem to be centered among teen-age groups.

It would be interesting to consider how many additional infections were prevented through the early location, isolation and treatment of those who were infected as shown by the three series. Such prompt investigation is possible only when the physician who diagnoses a case makes immediate use of the epidemiologic services available to him. Due to the heavy case loads with which most physicians are faced in their office practice, the time needed for thorough patient interviewing and contact tracing is not available. The services of trained public health personnel should therefore be utilized whenever and wherever possible.

These three investigations emphasize the fulfillment of both health department and private physician responsibilities in the control of the venereal diseases.



## CASE REPORT OF SYNOVIOMA

JOHN H. SUNDERBRUCH, M.D.

DAVENPORT

SYNOVIOMA IS AN uncommon, highly specialized form of malignant tumor which takes its origin from the synovial lining of joints, bursa and tendon sheaths. The many synonyms for this growth include such terms as synovial sarcoma, synovialosarcoma, synovialoma and synovial fibrosarcoma. The report of such a tumor was first made by Langenbeck<sup>6</sup> in 1865. A more detailed description of its clinical and pathological features was pub-

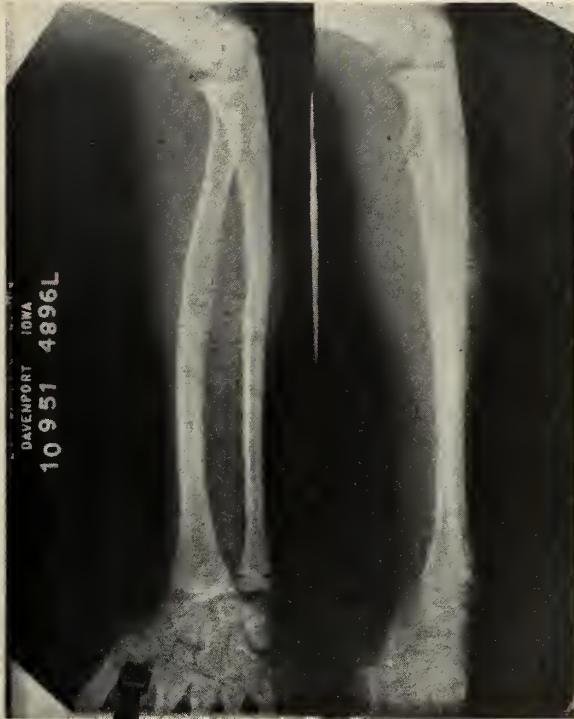


Figure 1.

lished in 1910 by Lejars and Rubens-Duval.<sup>7</sup> In 1927 Smith<sup>11</sup> introduced the term synovioma to designate the specific type of new growth. In later studies by Knox,<sup>5</sup> Haagenesen and Stout<sup>4</sup> and Bennett,<sup>1</sup> use of this term was repeated. The largest series of synoviomias have been 32 cases reported by Bennett,<sup>1</sup> 16 cases of deSanto et al.,<sup>3</sup> 15 cases of Coley and Pierson<sup>2</sup> and 104 cases of Haagenesen and Stout<sup>4</sup> (95 reviewed and 5 of their own). Recently Pack and Ariel<sup>9</sup> have presented the largest personal series, which totals 60 cases. Synovioma occurs of a single tumor showing almost invariably an intimate relationship to one of the joints. Upon gross examination it appears sharply circumscribed, as it is encapsulated. Frequently, the tumor is firmly attached to adjacent tissues at one or more points, anyone of which may represent the site of origin of the tumor or an area of ex-



Figure 2.

tension by invasion. On cross-section, synovioma may be either firm, moderately fibrous or, perhaps more frequently, soft, spongy and friable. It may be lobulated or cystic, containing clear fluid. The

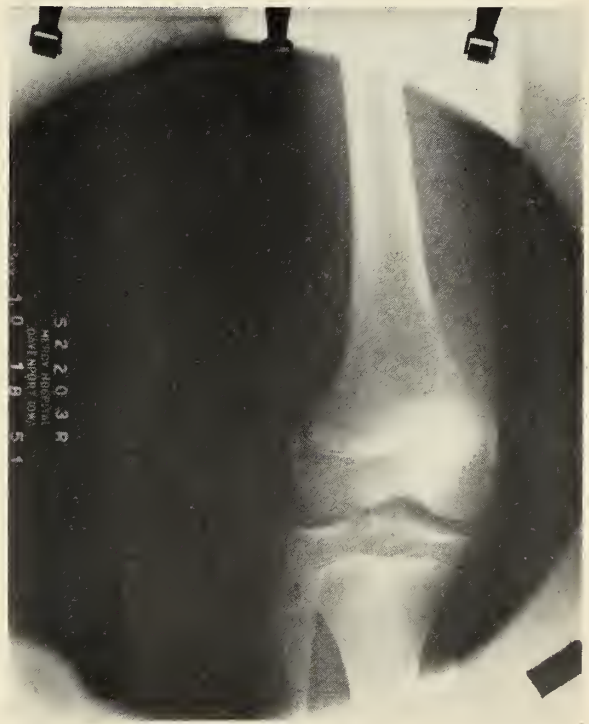


Figure 3.

color may be yellow, indicating necrosis, or brown or reddish, indicating old or recent hemorrhage. At times calcification may be encountered. Seldom is the entire tumor found within the cavity of the joint. Histopathologically, synovioma shows



Figure 4.

a highly variable complex picture of two cellular components—one villous, derived from the synovial lining; the other connective tissue, which often forms a sarcomatous pattern of partial or complete scarring of the first-mentioned structure.

#### CASE REPORT

H. G., 12 year old boy, first seen on April 19, 1951, had numerous small pustules on the medial aspect of both thighs. This condition was treated for one month with antibiotics, intramuscularly daily, various ointments, moist dressings and antibiotics locally. The pustules became widespread but were fluctuant in their appearance. The boy was quite free of the condition after a month's treatment, but on Sept. 20, 1951 there was a recurrence. This condition was not too severe. The patient did not pursue any form of treatment at that time.

However, on Oct. 8, 1951 he reappeared with a complaint relative to the left forearm (see in fig. 1). The patient stated that he had a fracture in the same area one year before, but it had been reduced and he had had no complaints; however, he felt his present condition had some reference to that fracture. The patient was quite debilitated at this time. One week later after intramuscular antibiotics daily, the condition presented as shown in fig. 2. On Oct. 18, 1951 the pain in the arm was severe. As the patient had also developed some pain in the right lower femur, he finally

consented to hospitalization. At this time he presented the findings as shown in figs. 3 and 4. On Oct. 27, 1951 a series of skull x-rays revealed no abnormality. The patient was treated with antibiotics intramuscularly every 12 hours, as well as other supportive measures; however, his temperature course was mildly septic. The patient had constant pain in his left forearm and right lower thigh. On Nov. 11, 1951 a biopsy was taken from the left forearm under general anesthesia. The mass biopsied involved the ulna as well as the radius. The pathologist's report was malignant synovioma. He stated, "The tumor shows marked pleomorphic characters, forming thin endothelial or serosal line spaces surrounded by dark basophilic staining cells, which show a tendency to pile up into thickly stratified layers. There are no basement layers separating the cells previously described from the adjacent stroma. The histopathological pattern is considered to be typical of malignant tumor of synovial origin. Prognosis in these cases is extremely bad."

An x-ray was taken of the patient's chest on Nov. 10, 1951. This is shown in fig. 5. His course went down-

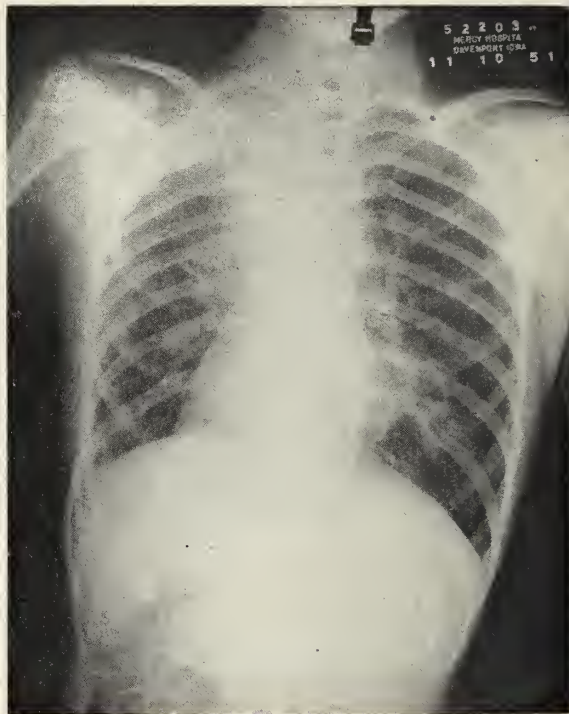


Figure 5.

hill rapidly, and he was sent home on Nov. 13, 1951. He expired on Dec. 19, 1951. Unfortunately, permission was not granted for a postmortem examination.

#### BIBLIOGRAPHY

1. Bennett, G. A.: Malignant neoplasms originating in synovial tissues (synoviomata); study of 32 specimens registered at Army Institute of Pathology during war-time period, 1941-1945. *J. Bone & Joint Surg.*, 29:259-291 (April) 1947.
2. Coley, B. L.; and Pierson, J. C.: Synovioma; report of 15 cases with review of literature. *Surgery*, 1:113-124 (January) 1937.
3. DeSanto, D. A.; Tennant, R.; and Rosahn, P. D.: Synovial sarcomas in joints, bursae and tendon sheaths; clinical and pathological study of 16 cases. *Surg., Gynec. & Obst.*, 72:951-981 (June) 1941.



4. Haagensen, C. D.; and Stout, A. P.: Synovial sarcoma. *Ann. Surg.*, **120**:826-842 (December) 1944.
5. Knox, L. C.: Synovial sarcoma. *Am. J. Cancer*, **28**:461-480 (November) 1936.
6. Langenbeck, G. S.: *Arch. f. Klin. Chir.* **6**:573, 1865.
7. Lejars and Rubens-Duval: *Les sarcomes primitifs des synoviales articulaires*. *Rev. de Chir.*, Paris **41**:751-783, 1910.
8. Maxeiner, S. R.; and McLaughlin, B. H.: Synovial sarcoma, a report of 5 cases. *J. Internat. Coll. Surgeons*, **17**:65-77 (January) 1952.
9. Pack, G. T.; and Ariel, I.: Synovial sarcoma (malignant synovioma surgery). In press.
10. Sherman, R. S.; and Chu, F. C. H.: Roentgenographic study of synovioma. *Am. J. Roentgenol.*, **67**:80-89 (January) 1952.
11. Smith, L. W.: Synoviomata. *Am. J. Path.* **3**:355-364 (July) 1927.
12. Tillotson, J. F.; McDonald, J. K.; and Janes, J. M.: Synovial sarcomata. *J. Bone & Joint Surg.*, **33-A**:459-473 (April) 1951.

State University of Iowa  
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE

December 10, 1952

SUMMARY OF CLINICAL RECORD

THIS 27 YEAR OLD man was admitted to University Hospitals with the complaint of convulsions. The morning of admission he had a convulsive seizure which started with drawing of the head to the left and was followed by convulsive movements of the arms. There was loss of consciousness during the convulsion, followed by confusion for 30 minutes. The patient complained of headaches in the postconvulsive period. Later in the day there were two other convulsions, with rolling of the eyes upward and convulsive movements of the upper extremities, which lasted for five to ten minutes. There was no aura, no biting of the tongue and no incontinence.

Past medical history revealed the patient had never been as active or as strong as his siblings and in recent years had become cyanotic. At the age of 17 he was confined to bed with swollen knees for two weeks. At that time bluish lesions were found on his lips and clubbing of the fingernails was noted. At the age of 20 the patient was in an automobile accident, was comatose for four days, but recovered without known sequelae. Epistaxis and bleeding from the lips had occurred for many years. Ten months before admission he was seen at Oakdale because of a persistent cough. Although on roentgenographic examination a shadow was seen in the left hemithorax, there was no evidence of active tuberculosis.

The family history revealed the father to be alive and well at the age of 60. The patient's mother and sister and his mother's sister had recurrent severe nosebleeds. Three brothers were alive and well. At the age of 30, the patient's sister had succumbed to an illness in 48 hours which began with a headache. The spinal fluid examination in her case was suggestive of a head injury or "brain tumor."

The physical examination revealed a well developed, well nourished white man not acutely ill,

lying quietly in bed, alert and cooperative. The pulse rate was 78 per minute. The blood pressure was 120/70 mm. Hg. The respiratory rate was 18 per minute. The body temperature was 101° F. rectally. The lips were cyanotic. Small blue raised lesions were noted on the lips and on the tongue. The neck was supple. Crusted blood was observed in the nose and in the nasal pharynx. Examination of the heart and lungs was negative except for a soft systolic murmur heard best at the right border of the chest in the fourth interspace. Clubbing of the fingernails was noted.

*Laboratory data:* A voided specimen of urine was acid in reaction, and the specific gravity was 1.028. Chemical tests for albumin, sugar and blood were negative. Numerous urate crystals were seen on microscopic examination. The hemoglobin was 17 Gm. per 100 ml., and the red blood cell count was 6.23 million per cu. mm. The white blood cell count was 13,600 per cu. mm. The differential count showed 69 per cent segmented polymorphonuclear leukocytes, 1 per cent basophils, 22 per cent lymphocytes and 8 per cent monocytes. X-ray studies of the skull were normal. X-rays of the chest showed the lung fields to be clear except for a rounded area of increased density (1½ cm. in diameter) which was rather sharply circumscribed in the left lung field in the fourth interspace anteriorly. A lumbar puncture revealed clear fluid with an initial pressure of 170 mm. of water. With compression of the jugular veins, the spinal fluid pressure rose to 220 mm., and a free rise and fall of the column was observed. The Pandy test was negative. Three polymorphonuclear leukocytes and ten erythrocytes were seen microscopically.

*Second hospital day:* The patient was treated with anticonvulsant drugs and had no seizures.

*Third hospital day:* The patient had a good day and was able to read a magazine. Headache was minimal.

*Fourth hospital day:* The patient awakened with a severe headache. He had a seizure in which his eyes deviated to the left. This episode was followed by two other seizures. It was believed that the patient was near a state of continuous epilepsy. Another lumbar puncture revealed an initial pressure of 210 mm. of water with a free rise and fall. One mm. of clear fluid was withdrawn and the Pandy test was 1 plus positive. There were 39 mononuclear cells and 15 red blood cells without acid. With acid there were 43 mononuclear cells. It was noted that there was a fine nystagmus to the right and to the left. The cranial nerves were intact to examination.

*Fifth hospital day:* The patient was comfortable but his appetite was poor. Headaches continued and the point of maximum intensity was in the suboccipital region. The patient had no seizures and seemed to be less drowsy.

*Seventh hospital day:* The patient began having rapidly repeated grand mal convulsions early in the morning. There were four in 15 minutes, with



Figure 1. Osler's disease, showing the many punctate lesions of the skin and lips. Both flat and elevated lesions are numerous, especially over the malar prominence.

clonic movements of the left arm. The convulsions were observed to be entirely on the left side. They were controlled with phenobarbital and 25 per cent magnesium sulfate intravenously. Following the convulsions, a left facial paralysis was noted. The left arm was weak and could not be extended into the air. The patient acted drowsy but he cooperated fairly well. Weakness of the left leg appeared later in the day. Angiocardiography and ventriculography were not thought to be indicated. Later in the day a craniotomy was done.

*Eighth hospital day:* The vital signs were stable and the patient could move both arms when stimulated.

*Ninth hospital day:* The color was good and the vital signs were stable. The right pupil was dilated but had a slight light reaction. The patient was able to move both arms on stimulation. The hemoglobin was 13 Gm. per 100 ml., and the red blood cell count was 5.0 million per cu. mm. The plantar responses were extension.

*Tenth hospital day:* The vital signs were normal but the patient's airway was poor except when the head was extended and the jaws elevated. The initial pressure of the spinal fluid was 160 mm. of

water. The fluid was observed to be smoky with erythrocytes.

*Thirteenth hospital day:* The patient showed some movement of the left extremities. The vital signs were stable. A Levine tube was placed in the stomach and gavage feedings were started.

*Fifteenth hospital day:* There was some pharyngeal obstruction due to the tongue. An oral airway was inserted, but this caused laryngospasm. A nasal pharyngeal airway through the left nostril relieved the obstruction. Because of the accumulation of secretions in the tracheobronchial tree, plus episternal retraction, it was believed that a tracheotomy would be beneficial. At the completion of the tracheotomy, the patient became cyanotic and respirations were slow and shallow. Oxygen was administered but the heart beat ceased. A thoracotomy was done through the third left interspace and cardiac massage was instituted at a rate of 20 to 25 per minute. Measures to initiate spontaneous heart action were unsuccessful. The patient died on the fifteenth hospital day.

#### CLINICAL DISCUSSION

Dr. William B. Bean, Internal Medicine: We



have for discussion today the tragedy of a young man of 27 who, although he obviously had a serious disease, was apparently in good health when he was suddenly seized with convulsions. He was shortly thereafter admitted to the hospital. After a week of observation his head was opened; following a period when it looked as though he might survive, he died.

Since you have looked over the protocol, I shall review it only briefly. He had not had convulsions before, and though there has to be a first convulsion in idiopathic epilepsy, his story is unlike epilepsy. Convulsions came from out of the blue, and he was left somewhat confused and sleepy. He did not have an aura, biting of the tongue or incontinence. The crux of the history is presented in the second paragraph. He apparently had never been as strong as his siblings and he had not been able to keep up in school. His family and his friends noticed that he was blue. The history is especially significant in that he was not a "blue baby." Probably cyanosis did not develop until adolescence. Bluish lesions, found on the lips, and clubbing were observed. The clubbing suggests that cyanosis was caused by inadequacy of pulmonary or cardiac function.

The story of hemorrhage over the preceding

years is quite characteristic. He had bled from his nose and from the lesions on his lips. Before he came here he was seen at Oakdale because on routine x-ray examination a shadow had been found in the left lung. There was natural concern as to whether it might have been caused by tuberculosis. He was observed at Oakdale and one of the residents from our service, Dr. Funk, saw him and made the diagnosis. Tuberculosis was not found.

The family history is equally important because a characteristic of the disease which he had is that it runs in families—is inherited genetically as a dominant characteristic. It is not sex linked. It affects males and females and they may equally transmit the characteristic. It will not be transmitted, however, by people who do not manifest the disease themselves, since the trait is dominant. I have examined the patient's mother and her three sisters, all of whom have the disease.

His sister gives us a preview of his own unfortunate experience. There was something wrong in her cranial cavity. She died after an illness of only 48 hours under circumstances said to resemble what might have been found with a brain tumor or a head injury. That is a rather mysterious description, but when looked at from the lay-

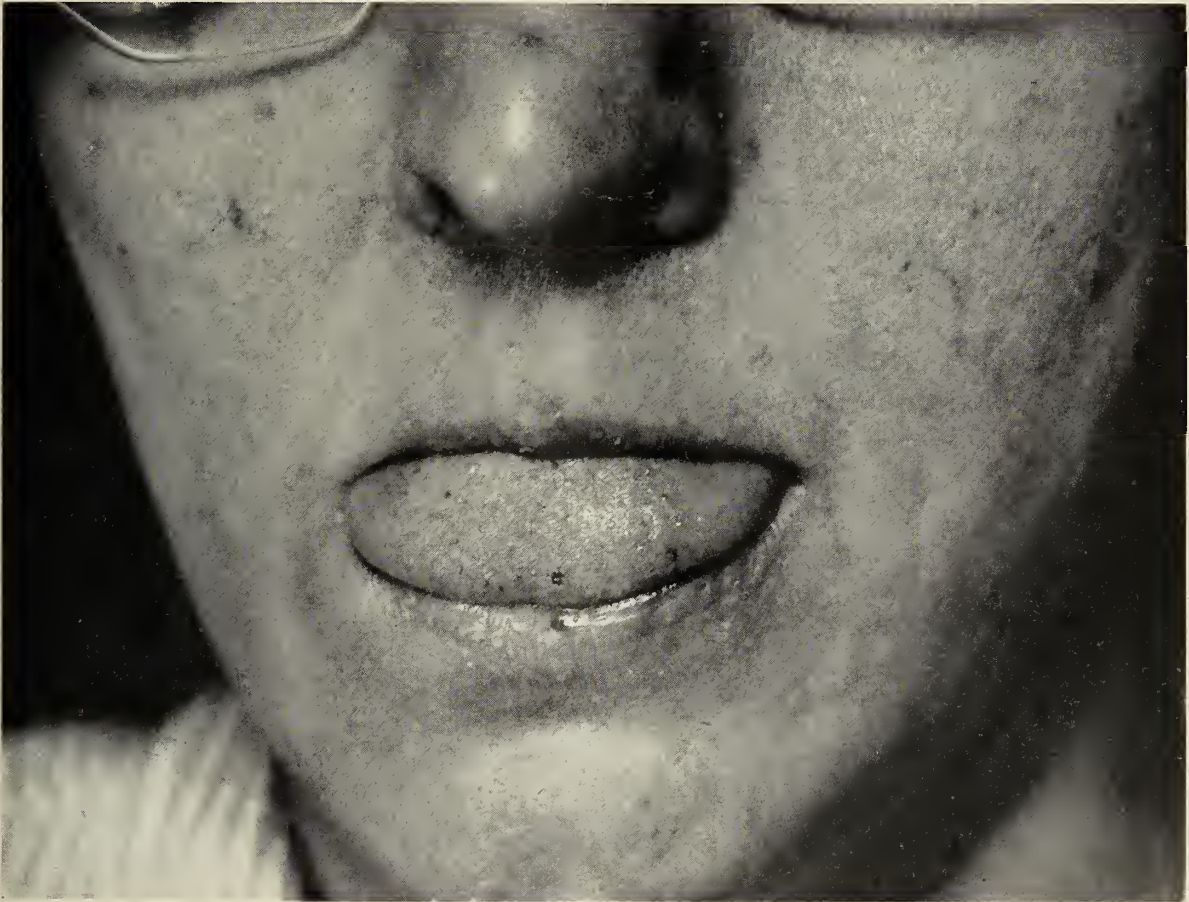


Figure 2. Osler's disease, illustrating lesions of the tongue, lips and skin.





Figure 3. Osler's disease, showing telangiectases of the fingers and nails. In the nail the lesion tends to occur near the free edge, is red, and sometimes may be seen to pulsate when the nail is depressed.

man's point of view it describes in accelerated form what happened to the brother.

On examination, the signs which have been mentioned in the history were revealed. He had a slight fever. He was cyanotic. Blue lesions were noticed on his lips. Similar, but red, lesions were seen on his tongue. He had been bleeding from the nose, as evidenced by crusts of blood in his nostrils and in the pharynx. Examination of his chest did not reveal any murmur characteristic of congenital heart lesions associated with cyanosis. They do not necessarily produce murmurs, although most of them do. Lateral to the heart on the right side a murmur was heard, suggesting that something in the lung was producing it rather than the heart itself. The clubbing was observed, as well as lesions of the nails and the fingernails. The laboratory information is chiefly significant in that it confirms the suggestion of polycythemia. The red count was 6.23 million, and there were 17 Gm. of hemoglobin.

During the next few days he was treated symptomatically. Following the sudden deterioration on the fourth day, after consultation with the neurologists and neurosurgeons, Dr. Schwidde operated. Thereafter, his course was really much worse than is apparent from the protocol. He could respond only to extremely painful stimuli; he was stuporous most of the time; he did not arouse and speak spontaneously; he was out of communication. Ultimately, deterioration was complete. Because he was unable to breathe well, emergency measures were instituted. In spite of this he died,

suddenly but not unexpectedly, just two weeks after he was admitted to the hospital.

That is the essence of the problem. Before going ahead with the discussion, I will ask Dr. Gillies to review the x-rays.

*Dr. Carl L. Gillies, Radiology:* Routine studies of the skull and a portable film of the chest were obtained on this patient. The skull appeared entirely normal, showing no abnormal calcifications. The chest film demonstrated a spherical, sharply circumscribed, 2 cm. lesion of uniform density in the left base, with prominent pulmonary vascular markings.

These findings, while not diagnostic in themselves, were compatible with the clinical diagnosis which was known to us at the time of the examination, and which we so reported.

*Dr. Bean:* Does anyone have any questions to bring up at this point?

*Dr. Elmer L. DeGowin, Internal Medicine:* What are the vital signs referred to in the protocol?

*Dr. Bean:* That somewhat mysterious problem of vital signs we will turn over to Dr. Sheets, who wrote the protocol. Dr. Sheets, what are the vital signs?

*Dr. Raymond F. Sheets, Internal Medicine:* Pulse and respiration are the principal signs referred to.

*Dr. Bean:* Apparently it was a term that he got from the notes of the neurosurgeons. Those terms, as commonly used, refer to the signs of cardiac activity and respiration, although there are other vital signs.



Does anyone else have any relevant or irrelevant questions? I will ask Dr. Perret to discuss the relationship of disease in the chest and disease in the skull and to discuss the differential diagnostic problem. Dr. Perret did not see this patient. Dr. Schwidde, who is no longer here, had his neurological problem under consideration. Dr. Perret.

*Dr. George E. Perret, Neurosurgery:* In a patient who has convulsions and is getting worse, one must think of three main lesions: (1) a space-occupying lesion: tumor or abscess; (2) an intracerebral hemorrhage, and (3) an anomalous vascular lesion. As you all know, tumors frequently produce convulsions and may produce only convulsions, without any other symptoms or signs. Whenever we see an adult patient develop convulsions, we must suspect a tumor and rule it out.

While the convulsions in this patient were sometimes generalized, they were also focal at times. Some were left sided and definitely suggestive of a cerebral lesion in the right hemisphere. Following a series of convulsions, he also developed some weakness and paresis in his left extremities, which again is strongly suggestive of a progressive right

cerebral lesion. In view of the chest lesions, one could consider the cerebral lesion to be a metastatic tumor. The patient could very well have a primary lesion or even a metastatic lesion in the chest and have another metastatic lesion in the brain. I do not know if Dr. Gillies could absolutely rule out a metastatic pulmonary lesion from the x-rays.

*Dr. Gillies:* No, I could not.

*Dr. Perret:* The possibility of an abscess should also be considered. It may give exactly the same symptoms and signs as a tumor because an abscess is also a space-occupying lesion. It will also develop, grow in size and produce increasingly more severe neurological signs and symptoms. However, abscesses are most frequently seen: (1) following open cranial injuries, which this man did not have, (2) following a history of infection of the paranasal sinuses or the middle ear or (3) following a history of infection in the lungs or in the blood stream. The history of this man did not suggest an infectious process, but the pulmonary lesions could have been encapsulated abscesses.

Abscesses may be present for quite a long time



Figure 4. Osler's disease, showing sharply circumscribed punctate telangiectases of the palmar surface of the fingers in the same patient as in fig. 3.



in the brain without producing symptoms. Ordinarily, however, when a patient develops symptoms, he presents papilledema, which is commonly more severe than in cases of brain tumors. Cerebral swelling and edema are usually more pronounced in cases of abscesses and metastatic lesions than in tumors or other intrinsic central nervous system lesions.

In hemorrhages, we usually deal with a sudden history of severe pain in the head. Often coma and paresis might follow this sudden onset, but the symptoms then have a tendency to improve, following the initial onset of the trouble. One of the outstanding symptoms of intracranial hemorrhages, in addition to headache, is neck rigidity. According to this patient's protocol, neck rigidity was never observed. The second important factor is the presence of blood in the cerebrospinal fluid. This patient had two spinal punctures and at no time was blood found in the spinal fluid. Therefore, I think one can rule out an intracranial hemorrhage. Cerebral hemorrhages may occur from ruptured aneurysms and arteriovenous angiomas or telangiectases, from tumors and in cases of arterial hypertension.

Chronic vascular anomalies, and I mean by this arteriovenous angiomas, hemangiomas, telangiectases, etc., must always be suspected. They often produce no symptoms other than convulsions. Occasionally, of course, they will hemorrhage and there will be evidence of that in the spinal fluid. Other cerebral vascular diseases, such as arteriosclerosis, thromboangiitis obliterans, endarteritis, etc., may produce frequent convulsions and may become associated with other symptoms.

In the cases of tumors or abscess, the spinal fluid may be entirely normal. The spinal fluid pressure, the total protein and the cell count, may all be normal. At the first spinal puncture performed on this patient, the spinal fluid studies were normal. The hereditary and familial telangiectasis present on his lips and perhaps in his lungs could suggest the presence of a similar lesion on his cortex. But the spinal fluid contained no blood. The second spinal puncture, however, revealed a pressure of 210 mm. of water as compared with the first one of 170 mm. of water, taken a few days previously. That means an increase in spinal fluid pressure of 40 mm., which is suggestive of a progressive increase in pressure and compatible with a space-occupying lesion rather than a vascular lesion.

The first spinal puncture revealed a cell count of 3. In the second puncture there were 39 cells. This means nothing because we always have an increase of white blood cells and red blood cells in the spinal fluid following any spinal puncture. Since the patient had had one puncture, the 39 cells found at the second puncture are not diagnostic. The spinal fluid cultures were negative, which does not rule out an abscess. We all know

that we may have intraventricular tumors or well localized spinal or cerebral abscesses with perfectly normal spinal fluids.

Our patient had clubbing of the fingernails and a mass in his left lung. That was suggestive of a chronic pulmonary disease. Of course, that disease could be vascular, neoplastic or infectious. It was a good assumption that the cerebral lesion which was more recent in origin, according to his symptoms, could be a metastatic lesion from the primary pulmonary lesion. The patient's temperature (101° F.) and the 13,600 white blood cell count suggested an infectious process. The fever could be the result of continuous convulsions. The temperature of a patient during a convulsion or shortly thereafter may show a moderate fever. In this case the fever was not diagnostic of any specific cerebral lesion.

I believe that, in order to make a more accurate diagnosis, our Dr. Schwidde recommended arteriography or ventriculography. Arteriography would have ruled out a vascular lesion and localized a space-occupying lesion. No diagnostic method can accurately differentiate a tumor from an abscess. The treatment—operation—is the same for both. If the history suggests an abscess, operation should be delayed as long as possible, for the older the abscess the thicker its capsule and the easier and more successful its extirpation.

I believe that arteriography or ventriculography was finally considered, but the patient's condition had become so critical that a craniotomy was done as an emergency procedure. A well encapsulated abscess was found and was removed.

A word about the cause of death: I think one important point has been left out of our protocol. It is the fact that, following operation and until the time of death, the patient had a dilated right pupil which would not react to light. This is suggestive of a subdural or epidural hematoma. It might explain the fatal outcome.

*Dr. Bean:* Does anyone have any questions to ask Dr. Perret? The problem of intracranial disease in people with chronic cyanosis is a little different from intracranial disease complicating other chest conditions. Ordinarily, metastasis from a tumor in the chest to the brain is solitary. When there is infection or abscess in the chest or in the pleura, metastatic abscess in the brain is apt to be multiple, although only one may give rise to symptoms and signs.

Patients with cyanotic congenital heart disease or cyanotic pulmonary disease have a particular susceptibility to brain abscesses. That has been explained on the basis that blood, bypassing the air-containing lung either through the heart or a pathway in the lung, is not filtered by the pulmonary capillaries. I do not think there is much evidence to sustain that view. Another explanation has been that it is connected with the ischemia and the anoxia. Lower oxygen tension favors the development of certain kinds of organisms. The



anaerobic organisms found in this patient are in accord with this possibility.

In any event, this boy, who presented many diagnostic problems, had the classical condition of hereditary hemorrhagic telangiectasia. It has been called, much more briefly, Osler's disease. It was described originally by several other people: Babbington in 1865, Rendu in 1896 and others. But Osler<sup>1</sup> was the first to collect several families and to delineate all of its curious manifestations, that is, all except pulmonary angiomatosis or pulmonary arteriovenous aneurysms, which were not recognized in any cases prior to the mid 1940's. Since then it has been reported in about 50 instances as a complication of Osler's disease.<sup>2</sup>

Initially I thought that this man had bled into his brain because cerebral bleeding is common in this condition. However, the clinical course and the fact that no blood was found in the cerebral spinal fluid made it less likely. The problem of what must be done about the intracranial lesion had to be solved, and without definite diagnosis. The important thing under such circumstances is to determine what need be done, not to go into a long didactic speculation as to what is happening. It was obvious that this patient was going downhill rapidly and that his head had to be opened. Perhaps we had best hear from Dr. Carter what was found.

*Dr. John R. Carter, Pathology:* The significant findings at autopsy were as follows: There were multiple blue non-elevated angiomatous lesions of the lips and of the tongue. A similar lesion was found on the tip of the right great toe. The skin of the hands and feet was ashen-gray. There was clubbing of the finger and curling of the fingernails, suggesting that there was some pulmonary lesion.

The most conspicuous finding was the presence of multiple arteriovenous aneurysms of both lungs. They were numerous and varied in size from 2 mm. to 3 cm. in diameter. Here is a plastic cast of the right lung, which Dr. Taber prepared, showing these aneurysms. There was no evidence of pneumonic consolidation either grossly or microscopically, and numerous sections of the lung were taken, of course, to study the arteriovenous fistulas. Still, a few colonies of anaerobic actinomyces were grown from the lung. The significance of this observation will be discussed in a moment.

There was mucosal erosion of the distal one-half of the esophagus but, interestingly enough, there were no telangiectases of the gastrointestinal tract; in fact, no telangiectases were found except those involving the skin and mucous membranes and the lungs. There was, of course, the operative defect resulting from the drainage of the brain abscess. I should mention at this time that the cultures from the pus removed at the time of operation showed anaerobic nonhemolytic streptococci, alpha hemolytic streptococci and anaerobic actinomyces.

This first slide is not from this case. It is from another similar case which Dr. Bean will talk about a little later, but it is a good example of the angiomatous lesions that one sees in hereditary hemorrhage telangiectasis. Notice these small dilated vascular spaces lined with endothelium. They do not have much of a wall. What wall is seen is made up of loose fibroblastic tissue. Notice, too, that the vascular spaces extend to the very base of the epidermis.

The angiomatous lesion from the lip in this case shows acute cellulitis throughout. In some instances the cellulitis was so extensive as to almost simulate an abscess. The significance of the cellulitis will be discussed shortly.

Here is a photograph of the lung. Here is one of the larger arteriovenous aneurysms. Here are small ones, scattered throughout the lung tissue.

These are multiple sections of the brain, taken at the time of autopsy, in which you can see the result of the operative intervention.

This is a section from one of the areas near the operative site, showing large numbers of "Gitter" cells. The type of reaction that we found in the brain at the time of autopsy consisted principally of infarction and hemorrhage. There was very little if any purulent material, nor were there any sulfur granules found in the numerous sections studied.

I would like to comment briefly on the pathogenesis of the brain abscess. I mentioned that the organisms, anaerobic nonhemolytic streptococci, alpha hemolytic streptococci and anaerobic actinomyces, were cultured from the brain abscess. These organisms are commonly part of the flora of the mouth. It will be recalled that the telangiectatic lesion from the lip showed an acute inflammatory reaction. The patient had a history, as you note from your protocol, of bleeding from the lips and from the tongue for a number of years. No pneumonic consolidation was found in the lungs in spite of the fact that a few colonies of actinomyces were cultured from the lung, a not uncommon occurrence. It seems likely, therefore, that the port of entry of the organisms was the telangiectatic lesion and not via the pulmonary route.

We have studied five cases of hereditary hemorrhagic telangiectasia from the point of view of a possible defect in the blood clotting mechanism. All of the cases studied have shown normal prothrombin and Ac-globulin determinations and normal antithrombin and fibrinogen values. It is true that in the majority of cases of this type the clotting time is not increased, but in a few of them it has been. It is the consensus that the etiology is not the result of a clotting defect.

Regarding the cause of death, I am not entirely sure to what it was Dr. Perret had reference. This individual did have a tracheotomy, and at the time of autopsy his tracheobronchial tree was filled with mucopurulent material. We felt that the im-

mediate cause of death was asphyxia. He had many of the gross findings of asphyxia.

*Dr. Perret:* Did he have evidence of subdural hematoma?

*Dr. Carter:* He had a subdural hematoma. It was rather extensive and may well have been sufficient to have produced the signs to which you were referring.

*Dr. Perret:* Could this cause disturbances of consciousness?

*Dr. Carter:* Yes, this could well have been the initiating factor of the accumulation of the mucopurulent material in the tracheobronchial tree.

*Dr. Bean:* Does anyone else have any questions that they would like to bring up at this time?

*Dr. Paul E. Huston, Psychiatry:* Do the shadows in the x-ray represent arteriovenous aneurysms?

*Dr. Carter:* Yes, they were the arteriovenous aneurysms.

#### SUMMARY OF NECROPSY FINDINGS

There were multiple blue non-elevated angiomatous lesions with a maximum diameter of 2 mm. on the mucous membranes of the lips, on the tongue and on the tip of the right great toe. The mucous membrane of the skin of the hands and feet had a bluish gray color. There was clubbing of the fingers and, to a lesser degree, of the toes. Onychogryposis was present. Healing incisions, the result of previous surgery, were noted. There was an incision 2 cm. in length through the trachea, which divided the first two tracheal cartilages and the isthmus of the thyroid gland.

Multiple arteriovenous aneurysms were present throughout the parenchyma of both lungs, extending from the hilar areas to the periphery. These varied from microscopic size to 3 cm. in diameter, the average being 1 cm.

The tracheobronchial tree contained copious amounts of tenacious, mucopurulent material. There was no evidence of pneumonic consolidation and the pulmonary arteries and veins were patent.

Extensive erosion of the distal one-half of the esophagus was noted. Small areas of hemorrhage were present on the exposed submucosa. A few scattered petechiae were noted in the mucosa of the small bowel, but no telangiectases were identified. The sigmoid colon and rectum contained tarry feces which gave a strongly positive chemical test for blood.

There was a rather large area of brain damage consisting of hemorrhage, infarction, cystic degeneration and inflammation, resulting, in part, from the surgical drainage of an actinomycotic abscess. This involved the right parietal area and extended from 1.0 cm. anterior to the anterior tip of the lateral ventricles caudad to the splenium of the corpus callosum.

A few colonies of anaerobic actinomycetes were cultured from lung tissue. The immediate cause of death was anoxia and cardiac arrest.

#### NECROPSY DIAGNOSES

Hereditary hemorrhagic telangiectasis with pulmonary arteriovenous aneurysms.

Pulmonary osteoarthropathy with onychogryposis.

Brain abscess, operated, due to Gram-positive cocci and Actinomyces.

*Dr. Bean:* The slides show you what these patients had clinically (see figures 1-4). It is easy to recognize once you know it. We have encountered, in five kindreds in Iowa with Osler's disease, some 35 persons who had not been diagnosed before coming to the hospital as patients or visitors. Recognition is important now because it was claimed in a recent article<sup>3</sup> that we have an effective therapeutic approach to this disease, at least to palliate it.

Osler's disease emerged out of the chaotic confusion about bleeding diseases—the first for which a definite mechanism was found and at a time when clotting was not understood.<sup>1</sup> This condition was known to be a disturbance of blood vessels. I had an interesting experience when Dr. Stevenson, who was very much interested in this problem in Cincinnati and had records on some 80 persons with this disorder, went to practice in Huntington, W. Va. He had as a patient an old man in his seventies who had been in one of those three family groups originally described by William Osler. Osler in 1901 had taken him to one of the international congresses of medicine in London as Exhibit A of a remarkable and rare disease. This man, with direct connection with the original classical description of the disease, was still alive, indicating that it is not necessarily lethal at an early age.

The indispensable condition in making the diagnosis is that it is a familial disease.<sup>4</sup> Occasionally, I have seen a person bleed whose parents had not bled, but after observing them for a time, a parent developed the bleeding tendency. Generally, however, the story is of nosebleeds as a child, an exacerbation of bleeding in adolescence, followed by a nearly symptomless period. Then, in the twenties and thirties, hemorrhage from cutaneous, oral or alimentary canal lesions, or hemorrhage in the genitourinary tract into the viscera or into the brain, brings the patient to the physician. Many patients are troubled with nosebleeds more than anything else. A good many otologists have had considerable experience with the problem and treatment of resistant hemorrhage. All forms of cautery, excision of the local region and the application of radium have done some good for a time, but in all instances trouble had recurred. The bleeding may occur anywhere, and the patient may go to a specialist who is concerned only with the local aspects of the disease and thus may not recognize it.

The gross appearance of the lesion is different from that of the arterial spider.<sup>4</sup> It is different morphologically, tending toward a violaceous color



rather than a bright red brilliance. Ordinarily it does not pulsate, whereas most spiders can be felt to pulsate, or it can be demonstrated with a glass slide.

The distribution of the lesion in Osler's disease is ubiquitous. It occurs not only all over the surface of the body with emphasis on the face—the lips, the ears, the nose—and the palms and the feet; it occurs throughout the interior of the body. On the other hand, the arterial spider appears in about two thirds of normal women during pregnancy and in about three fourths of the persons with chronic severe liver disease, such as cirrhosis. Spiders appear almost exclusively above the level of the diaphragm. The reason is obscure. They occur in greatest number over the face and the neck and over the blush area. They are rare in the nails and on the palms, so that by distribution alone one can get a fairly good clue. Occasionally they occur on the feet, but in less than one per cent, in the instances of individual spiders. In addition, normal people may have one or a few arterial spiders, probably related to ordinary birthmarks.

The pressure needed to obliterate arterial spiders is 60-100 mm. Hg. The lesion in Osler's disease does not fade even with higher pressure, suggesting that the coiled, contorted, varicose arrangement of these dilated vessels permits multiple obstructions so that they may not fade in the way that the arterial spiders fade. It takes a pressure on the order of 90-100 mm. Hg. as applied by a local capsule to exclude blood from the central punctum of the spider, whereas such pressure may not suffice to eliminate it from many of the lesions in Osler's disease.<sup>4</sup>

Both the arterial spider and the lesion of Osler's disease may fade with shock and may be difficult to find after hemorrhage or with chronic anemia. After death they tend to be much less conspicuous than they were before. Those in the skin fade out, those in the mucous surfaces and the lips fade less. If one looks carefully, one can demonstrate them. Clinically the surprise may be that after transfusion many new ones seem to have appeared over night. Actually, they have been present but not readily seen.

There is not time to go into the pulmonary arteriovenous aneurysm in relation to this disease. There have been many recent case reports and collected groups of pulmonary angiomatosis or pulmonary arteriovenous aneurysms with polycythemia, cyanosis and clubbing in Osler's disease. Surprisingly, this situation was overlooked until a few years ago. I reviewed my records of 38 patients with Osler's disease in Cincinnati. Not one of them had clubbing and I was particularly interested in clubbing at that time. None had polycythemia, and we had blood counts on all of them. Chronic severe anemia was invariably the problem.

The problem of therapy is unsettled. Local hemostasis is first, iron for blood loss second. A

possibility for prevention was suggested in a recent report<sup>3</sup> for the use of estrogenic hormone in the treatment of Osler's disease. The reasoning behind it was the observation that in one patient with this condition, there had been a tendency for bleeding to occur at that stage of the menstrual cycle when estrogen was at its lowest ebb. There had also been an extreme exacerbation of bleeding after x-ray sterilization of a woman in the premenopausal period, suggesting, perhaps, that the estrogenic hormone had something to do with prevention of bleeding. Some half-dozen patients, both men and women, were put on a regimen of estrogen therapy and, according to the report (still preliminary), the mucosa with its crusting telangiectatic lesions had been restored to a fairly normal state. Clinically, bleeding had diminished remarkably and in some patients had not occurred, whereas they had not been free from bleeding for many years.

You may think it strange that we spend such a long time discussing a disease of admitted rarity. Knowing something about it has made it possible to provide proper care for several dozen people here in Iowa. It is of great importance to the persons affected. The protean clinical features of Osler's disease as manifested in various systems of the body emphasized beautifully the necessity for a broad general background in medicine, whether you practice general medicine or a specialty, because this disease affects any part of the body and may produce its trouble by hemorrhage within or without. It is a good illustration of the kind of disorder which may be mishandled by specialists not familiar with the broad aspects of disease.

Does anyone have any questions?

*Dr. Raymond G. Bunge, Urology:* Does this disorder occur in Negroes?

*Dr. Bean:* Yes, it does. Two cases have been reported by Schwartz from the Cook County Hospital in Chicago.<sup>5</sup> I have never seen an instance of it, but it does occur.

#### BIBLIOGRAPHY

1. Osler, W.: On a family form of recurring epistaxis, associated with multiple telangiectases of the skin and mucous membranes. *Johns Hopkins Hospital Bulletin*, 12: 333-337, 1901.
2. Giampalmo, A.: Arteriovenous angiomatosis of the lung with hypoxemia. *Acta Med. Scand. Supp.*, 248, 1950.
3. Koch, H. J., Jr.; Escher, G. C.; and Lewis, J. S.: Hormonal management of hereditary hemorrhagic telangiectasia. *J.A.M.A.*, 149:1376-1380 (Aug. 9) 1952.
4. Bean, W. B.: Cutaneous arterial spider; a survey. *Medicine*, 24:243-331 (September) 1945. (This review contains an extensive discussion of the differentiation of Osler's disease from the arterial spider.)
5. Klienschmidt, W. H.; and Schwartz, S. O.: Familial hereditary hemorrhagic telangiectasia in Negro, report of second case. *Illinois M. J.*, 98:293-300 (November) 1950.

#### OUR TECHNICAL EXHIBITORS

For the names of the firms which are supporting our annual meeting this year, see page 93 of this JOURNAL.

# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
MISS MARY L. McCORD, Managing Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
MR. DON L. TAYLOR, Advertising Manager.....Des Moines  
MISS JOYCE MEYER, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII

MARCH, 1953

No. 3

## ANNUAL MEETING

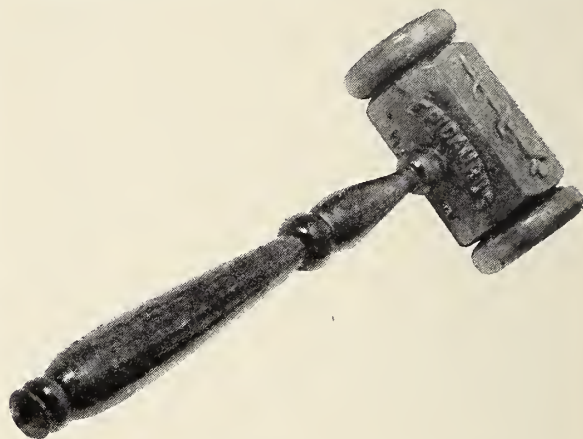
This issue of the JOURNAL carries the program for the annual meeting, April 26-29, which will be held in Des Moines, with general headquarters at the Hotel Fort Des Moines. The Woman's Auxiliary will hold their meetings at the Hotel Savery. The technical exhibit space will be located on the lobby and mezzanine floors of the Hotel Fort Des Moines. The scientific exhibits will be found at the Mid-Town Roller Rink, one block west of the Hotel Fort Des Moines. Section meetings will be convened at announced locations. As usual, the House of Delegates will hold its first session on April 26, 1953, officially opening the meeting.

Now is the time to make your hotel reservation in order to insure a place to stay. You are especially invited to attend this session in order that the 1953 meeting will not only prove successful, but accomplish our objectives in promoting the welfare of the Iowa State Medical Society.

## OFFICIAL GAVEL OF THE STATE SOCIETY

For many years the deliberations of our House of Delegates and the scientific talks of our general sessions have been brought to order and closed by the banging of the official gavel of the Society. This gavel, shown here, was presented to Dr. Thomas A. Burcham, Des Moines, when he was installed as president of the State Society in 1935, by Dr. Arthur W. Erskine, Cedar Rapids. Dr. Erskine, a close personal friend of Dr. Burcham, told how he had brought the wood for the gavel from the island of Epidaurus and said he felt it fitting that "from this wood about which the classic

Aesculapian serpent twined in ancient times, from this wood steeped in a rich tradition of endeavor and achievement, should be wrought an emblem of unity, of strength and of authority. Therefore, I have carved from this wood a gavel which symbolizes the ancient code by which we govern our lives and the high and honorable calling we serve. It is my honor and pleasure to present this gavel to you, to do with as you choose. I pray to Apollo, and to Hygeia, to Panacea and to Aesculapius, the Father of us all, that the need may never arise when it shall be used to quell dissension in this brotherhood."



Dr. Burcham, in accepting the gavel, said, "Because it comes from Dr. Erskine, who for many years has been my close personal friend, and because I appreciate the time and skill expended in carving this gavel, my first impulse and desire is to keep it as my very own. Knowing the sincere love Dr. Erskine holds for the profession he so nobly represents and exemplifies, and knowing what affection he has for his colleagues, can you blame me? However, instead of being selfish, I am going to present this gavel to the Iowa State Medical Society as a working gavel, which I know Dr. Erskine would want me to do, so that each member of the Society may share in the joy of its possession. I, too, hope, as Dr. Erskine has already said, that neither I, nor any president of this Society in years to come, may have need to raise this gavel to quiet dissension in our ranks."

In the more than 17 years since the presentation of the gavel, the need has never arisen to quell dissension in the ranks. Differences of opinion have existed, and we hope they always will. It is our belief that progress is made more effectively when all sides of a question are presented and studied, when varying opinions are advanced, deliberated and consolidated. Complacency and passive acceptance of regulations from a small governing group can well lead to gradual deterioration.

To Dr. Erskine's wish we would like to add our own,—that the official gavel never call into session a quiescent House, but that it always be used to



convene full and open deliberations of what is best to provide the utmost in medical care for the people of our country.

### THE IOWA STATE MEDICAL SOCIETY EDUCATIONAL LOAN FUND

Incorporation papers have been filed in the Secretary of State's office for the Iowa State Medical Society Educational Loan Fund. The purpose of the nonprofit corporation is to assist medical students at the State University of Iowa and other medical colleges to obtain a degree in medicine by furnishing funds either as a loan or a grant to individual students requiring assistance. Objectives are to raise the standards of the practice of medicine throughout the state of Iowa and the United States, and to persuade graduates of medical schools to establish their practice in rural communities.

Funds will be made available to students only when they agree to go into general practice for a minimum of three years after conclusion of their internship. Repayment of the loan is to begin in the third year.

Money for the fund is to be made up of loans or gifts from members in good standing of the Iowa State Medical Society, and other residents of Iowa who are sympathetic to the aims and purposes of the corporation. Three methods are available: (1) outright donation; (2) a yearly donation over a designated period, or (3) a loan with a 4 per cent interest on the investment. Students will be charged 5 per cent interest; 1 per cent will be paid to a bank which will act as administrator or agent, and the persons loaning funds will receive 4 per cent.

A committee of five members will handle the affairs of the corporation. The articles of incorporation require that one shall be the chairman of the board of trustees of the State Society, one the president of the State Society, and three others.

Sponsors of the idea will soon solicit members of the State Society for funds to activate the corporation. Already requests for loans amounting to about \$15,000 have been received in Iowa City. Undoubtedly other students will find it necessary to augment their funds to complete their school year, and when the new academic year starts next September, a large demand can be anticipated.

Many of today's medical students are married and have children to support while obtaining their medical education. Many have no financial backing from home but must rely on their own efforts.

We feel this educational fund is another step in the right direction, similar in some respects to the fund being raised by the American Medical Education Foundation. That Foundation assists medical schools by an outright grant of funds, whereas our state fund makes available financial assistance to medical students. The restriction of three years in a rural practice should prove potent in interesting more graduates in this type of medical

service. It should assist materially in giving a wider coverage of medical care to the state, thus meeting one of the current criticisms that too many doctors are locating in the larger communities.

Donations to the fund are allowable deductions for income tax purposes. Loans will bring a larger return than ordinary to the physician, and will assist materially in providing help for our medical students.

### PAYMENT OF AMA DUES

We have been proud of the fact that most Iowa physicians have paid their AMA dues ever since they were started in 1950. For over a hundred years the AMA did not levy dues, and membership in county and state medical societies automatically made a physician a member of the American Medical Association.

Changing times and increased costs finally necessitated a dues structure for our national organization; and for the past three years it has been part of the duty of the state societies to collect the AMA dues, educating their members to the reason for so doing.

As we say, Iowa has had one of the better records—testifying, we think, to the acceptance of responsibility on the part of our physicians. We have not felt it necessary to make payment of AMA dues mandatory for membership in the county and state societies, feeling such a step smacked of compulsion, and we hold no brief for that.

The AMA is now in the process of compiling its new directory. When that appears, the names of AMA members will appear in the usual large type, while the names of those who have not paid AMA dues will appear in the small, nonmember type. Up until this time, of course, membership in our State Society automatically carried membership in the AMA and so our members appeared in the larger type. Now, however, state membership will not be the basis, but AMA membership will be the deciding factor, since the directory lists members of the American Medical Association.

Possibly this may influence some physicians to bring their AMA membership up to date. We hope it will, because we think in the long run physicians are morally responsible for supporting their national organization. "In unity there is strength."

### RESERVOIRS OF PSITTACOSIS VIRUS

*The Journal of the American Medical Association* recently carried a report\* of a case of psittacosis, following contact with pheasants in an Illinois county adjoining Iowa. The disease was diagnosed in the owner of a pheasant ranch. Studies of blood serums obtained from birds in the flock owned by the patient showed that the infection was present;

\* Ward, C. G.; Birge, J. P.: Psittacosis (Ornithosis) following contact with pheasants. *J.A.M.A.*, 150:217-219 (Sept. 20) 1952.

in fact, widespread among these birds. This is not the first time that the disease has been identified in nonpsittacine birds. The geographic location of the infection, however, makes the report of more than passing interest to the physician practicing in Iowa.

The disease psittacosis (more properly ornithosis) does not produce a characteristic clinical picture. Its incubation period is 7 to 14 days. There is fever, malaise, sore throat, headache and sometimes mental symptoms such as insomnia, disorientation or depression. A dry cough, persistent in nature and of increasing intensity, is a fairly common symptom. The pulse is usually slow and the white blood cells are normal or subnormal in number. Physical signs in the chest are few, but roentgenologic examination will demonstrate patchy areas of consolidation in most cases. There is usually no reaction in the pleura. The process is slow in resolution. About 25 per cent of the cases have rather severe nosebleed.

This clinical picture is not an infrequent one in a population where influenza and virus or atypical pneumonia are common. Many citizens in Iowa are exposed to members of the bird family in which the disease has already been demonstrated. Exclusive of the exotic birds which are found in a number of Iowa homes, the disease has been identified in pigeons, ducks, chickens and now pheasants. The disease agent, a virus, is shed from the sick animal in its droppings and nasal discharges. The virus may be spread to man by inhalation of the dried excreta from the air, by handling the sick animals and by bite wounds.

The one reliable and practicable method of diagnosis is the demonstration of complement fixing antibodies in the patient's serum. There are other diseases, notably lymphogranuloma venereum, which are indistinguishable from ornithosis by this test, but their clinical picture is quite different. It is possible to culture the virus from sputum but this procedure is a rather complicated one. Since a significant titer of antibodies may also mean a past infection with the virus, great importance is attached to a rising titer of antibodies during the course of the illness and convalescence.

The disease is not a significant one as far as mortality rates are concerned. Only about 2 per cent are not recovering, since the introduction of antibiotic therapy. Only about 40 clinical infections are recognized in the United States every year. There probably are many more. The disease may be communicable from one individual to another.

Ward and Birge have shown that the disease is present in birds in this geographic region. Iowans, especially those living on farms, have frequent contact with birds that can carry the disease. Perhaps some of the "flu" or atypical pneumonia could be more exactly diagnosed if more complement fixation tests for ornithosis were done.

## RED CROSS

During each March volunteers assist in the solicitation of funds for the American Red Cross. Because we are apt to take the Red Cross for granted, it is worthwhile as well as amazing to review the accomplishments of this organization.

During 1952 the Red Cross collected 1,681,500 pints of blood and collected an additional 2,439,700 pints for shipment to Korea and for dried plasma defense reserves.



Emergency or rehabilitation assistance was furnished to 32,000 families. Over one million Red Cross first aid certificates were awarded. An average

of 4,550 nurses donated their services to their communities. Eight hundred and fifty tons of supplies were shipped to Korea. More than 11 million dollars was paid out in financial assistance to service men and their dependents. An average of 30,500 cases a month of claims for veterans benefits were processed. There were 28,500 volunteer assistants in 156 veteran administration hospitals. Nineteen million school children were enrolled in Junior Red Cross activities. More than 66,000 persons received aid at Red Cross highway first aid stations. Seventeen thousand recreation events each month and 85,000 movie showings were presented in military hospitals all over the world. All of this was complemented by many other services.

When one reviews the vast activities as outlined above, it is easy to understand the importance of the annual Red Cross call. Let us respond generously to this appeal.

## DON'T FORGET THE BLUE SHIELD ANNUAL MEETING

As the time approaches for our own annual meeting, we wish to remind our members of the annual meeting of Blue Shield, our insurance plan, which by rule is held at the time and place of our annual meeting. This arrangement was made so that all participating physicians might conveniently attend its annual meeting and discuss the operation of the plan and help determine its future policies.

The annual meeting of Blue Shield is scheduled for 5 p.m. on Monday, April 27, in the Grand Ball Room. It is sincerely hoped that many of the participating physicians will be present. Blue Shield has tried to maintain closer contact through the employment of field personnel, but even though this helps solve some questions, it cannot replace the full discussion which will take place at the annual meeting.

Remember, you are a stockholder in this company, and you are urged to assert your rights and be present to cast your vote on the questions to be considered.

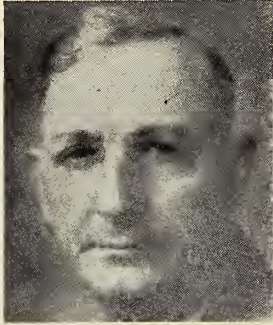


---

# EARL BLAINE BUSH, M.D.

## 1884-1953

---



On the evening of January 14 at 8:15 p.m., while sitting in his home at Ames with his wife, Dr. Earl B. Bush quietly dropped into his final sleep. This followed several months of semi-invalidism from previous heart attacks, and ended the career of one of our most distinguished and colorful members. There are few in the State Society who did not know Earl personally or know of him.

His had been a full life, not too long in years, but rich in experience and service. Unfortunately, his constant participation in civic, military and medical endeavors took its toll of his strength, always freely given. In each of these spheres of activity he was decidedly a leader.

Born June 22, 1884 at Knoxville, Iowa, he studied at Iowa State College, Highland Park College, Des Moines, and finally at Drake University College of Medicine, where he received his medical degree in 1908. Following this, he started practicing in Ames, and continued there until his death. In 1911 he was married to Edna Everett of Spirit Lake, who survives him. Also surviving are two sons and two daughters.

Dr. Bush had about 35 years of military service. He began as a private in old Company D of the 51st Iowa Infantry in 1901. From 1905 to 1910 he was first sergeant of the medical detachment, 55th Iowa Infantry. In 1910 he received his first commission, that of first lieutenant. Dr. Bush gradually rose in rank to become a full colonel. He served on the border in 1916 and went to France in 1918 as commander of the medical detachment of the 126th Field Artillery. Following his discharge in 1919 he returned to Ames, but in 1926 he became state surgeon for the Iowa National Guard. In 1937 he assumed command of the newly organized 136th Medical Regiment, and brought it up to war time strength and efficiency surpassed by none. At this time he had the rank of colonel

and was the division surgeon of the 34th Division, National Guard. Retired in 1941 because of a cardiac condition, he returned to his practice at Ames with a heavy heart because he could not accompany his boys overseas.

Active always in civic affairs, as first Legion commander, as councilman, hospital trustee and in other offices, Dr. Bush contributed much to the city of Ames.

In the medical field he served as Story County secretary for years, and later as president and district councilor; as chairman of the Speakers Bureau of the Iowa State Medical Society, and, finally, as president of the State Society in 1942.

A remark made to me by a military man early in World War II illustrates Dr. Bush's character. This man said that he would hate, in a way, to serve under Col. Bush because he was so exacting and such a driver, but if he had a son in service he would pray that the son be in the Colonel's outfit, for Earl not only looked after his men but also would fight for them.

To those who knew him well, there was one unforgettable characteristic—his intense loyalty and devotion to his patients. The week following his death a former patient remarked to me, "Dr. Bush was a good doctor." Then she paused, her eyes moistening, and added, "I shall miss him." There was in this simple expression a personification of his life. True, she would miss his diagnostic, medical and surgical skill, but more than that, she felt she was losing an advisor, counselor and one to whom she could go for advice when in trouble. He practiced medicine in the broadest sense; there was no problem too complicated, no sacrifice too great for him to make if he could bring help to one of his families.

Earl Bush left his imprint in life as few men are privileged to do, for his was a positive character; and there never was any doubt about where he stood on an issue. It was always on the side of right as he saw it.

His advice, counsel and philosophy, sometimes humorously expressed, will long be remembered in the State Society. His courage at all times, his integrity and loyalty to his principles and his faithfulness to his friends were characteristics profoundly admired and respected.

For what he accomplished for his community, his profession and his country, we are deeply indebted. Earl Bush will truly be missed.

BEN T. WHITAKER, M.D.

## *General Manager's Page*

The Preceptor Program initiated by the Iowa State Medical Society will have its first real test during the coming summer months. Last spring the list of available preceptors was not completed until it was too late to make assignments.

This is the State Society's program. It is of utmost importance that every preceptor cooperate to the fullest extent, not only with the few rules which have been set up to govern the program, but also to see that each student receives the maximum benefit from this short period of training. This is our opportunity to sell these fine young men on the wisdom of becoming general practitioners.

The general practitioner is without doubt both a friend and advisor to his patient. He must be skilled in the latest scientific developments of medical science, but he must also develop a keen personal relationship with the family and an active interest in the community.

Naturally, it would be ideal for the preceptor to take these young men into his home, but in many instances this is impossible. It, of course, is not required.

Again, this is our opportunity to improve medical care in Iowa by stimulating the interest of the junior medical student in our State University in the general practice of medicine.

*R. D. Bernard, M.D.*

*General Manager*



# WOMAN'S AUXILIARY to the IOWA STATE MEDICAL SOCIETY

Organized May 9, 1929, Des Moines, Iowa

## *Twenty-Fourth Annual Meeting*

Des Moines, Iowa, April 27, 28, 29

### PROGRAM

MRS. LONNIE A. COFFIN, *President*, Presiding

#### **Monday, April 27**

*Terrace Room—Hotel Savery*

8:30 Registration

9:00 Executive Board Meeting—For board members, county presidents, presidents-elect and past presidents of the State Auxiliary. All doctors' wives are welcome.

12:00 Luncheon

Speaker—Mrs. J. M. McDonnough, Fourth Vice-President of the Woman's Auxiliary to the American Medical Association.  
Luncheon Music—Mrs. H. C. Merillat

2:00 Panel Discussion—Why Nurse Recruitment and Loan Fund?"

Mrs. Dean H. King, Moderator  
Quantity and Quality of Nursing Care  
C. H. Stark, M.D., Cedar Rapids  
Farm Bureau Speaks for Nurse Recruitment  
Mrs. C. C. Inman  
Developing Future Nurse Clubs  
Mrs. Laurence E. Pierson and  
Mrs. Carroll A. Brown, Sioux City

4:00 Tea—Dr. Grace O. Doane, 4140 Grand Avenue  
Hostesses—Woman's Auxiliary to the Polk County Medical Society. All doctors' wives invited.

#### **Tuesday, April 28**

*Terrace Room—Hotel Savery*

8:30 Registration

9:00 Formal opening of the 24th Annual Meeting of the Woman's Auxiliary to the Iowa State Medical Society. Mrs. Lonnie A. Coffin, President, presiding.

Invocation—Reverend Edward P. Ingersoll  
Introductions.

Welcome—Mrs. Noble W. Irving, President, Woman's Auxiliary to the Polk County Medical Society.

Response—Mrs. L. R. Hegg, First Vice President of the Woman's Auxiliary to the Iowa State Medical Society.

"Around the clock in '53"

Coordinator—Mrs. L. R. Hegg

1. Health Subjects Are Popular—Mrs. H. W. Smith, Woodward
2. Our Community As I See It—Mrs. T. E. Davidson, Mason City
3. Helping the Handicapped—Mrs. H. C. Merillat, Des Moines, Iowa
4. Hospital Auxiliaries and Their Importance—Mrs. Martin A. Blackstone, Sioux City, Iowa
5. What Makes a County Auxiliary Tick—Mrs. Frederic G. Loomis, Waterloo, Iowa
6. Coffee Time in Appanoose—Mrs. E. A. Larsen, Centerville, Iowa

12:00 Luncheon

Speaker—Dr. Louis H. Bauer, President American Medical Association

2:00 Style Show—Sport Clothes and Summer Fashions—Norman Cassiday, Inc.

7:00 Banquet—Hotel Fort Des Moines

#### **Wednesday, April 29**

*Terrace Room—Hotel Savery*

8:30 Breakfast

Talk—R. D. Bernard, M.D., General Manager of the Iowa State Medical Society

Business Meeting—Mrs. Lonnie A. Coffin, President, presiding

Roll Call

Minutes

Memorial—Mrs. I. K. Sayre

Election of Officers

Installation of Officers—Mrs. H. W. Smith

Post-Convention Board Meeting

Adjournment

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. LONNIE A. COFFIN, Farmington

*President-Elect*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*Secretary*—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

*Treasurer*—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

---

## ANNUAL MEETING

Your Board members and the Polk County Auxiliary have been diligently at work planning an interesting program for all doctors' wives at the annual meeting April 27-29 at the Savery Hotel, Des Moines.

You will soon receive an official call by letter with full details concerning program, luncheons and other social activities.

Thirty years ago we were organized for the sake of good will and friendship. Today our aims have increased, but that first objective is still one of our most important ones. The Auxiliary renders a valuable service to the American people.

If you are not an Auxiliary member feel free to attend. I am hoping to meet many of you in Des Moines.

MRS. LONNIE A. COFFIN, *President*

---

## ANNUAL MEETING COMMITTEES

### TICKETS AND RESERVATIONS

Mrs. Jesse H. McNamee, *Chairman*  
Mrs. Floyd M. Burgeson, *Co-Chairman*  
Mrs. Maurice T. Bates  
Mrs. Henry H. Gurau  
Mrs. Louis J. Noun

### REGISTRATION

Mrs. B. F. Kilgore, *Chairman*  
Mrs. Herman J. Smith, *Co-Chairman*  
Mrs. A. D. James  
Mrs. C. L. Putnam  
Mrs. Everett M. George

### LUNCHEONS, BREAKFAST AND DECORATIONS

Mrs. D. F. Crowley, Jr., *Chairman*  
Mrs. Joe M. Standefer  
Mrs. R. B. Stickler  
Mrs. Kirby H. Shiffler  
Mrs. N. J. McGarvey  
Mrs. E. T. Burke  
Mrs. R. R. Updegraff  
Mrs. Donald Schissel  
Mrs. T. E. Corcoran  
Mrs. G. H. Watters  
Mrs. J. C. Parsons

## MUSIC

Mrs. Herbert C. Merillat

## FASHION SHOW

Mrs. J. Fred Throckmorton, *Chairman*  
Mrs. Leo R. Pearlman  
Mrs. Robert J. Porter

## PRESS AND PUBLICITY

Mrs. Homer E. Wichern  
Mrs. Rutledge C. Schropp

## HOSPITALITY, GUESTS AND TRANSPORTATION

Mrs. B. E. Keen, *Chairman*  
Mrs. Herbert C. Merillat  
Mrs. Wm. J. Morrissey  
Mrs. Allan B. Phillips  
Mrs. O. N. Glesne (Webster County)  
Mrs. J. E. Krettek (Pottawattamie County)  
Mrs. Wilson C. Wolfe (Wapello County)

## TEA

Mrs. Edward R. Posner, Jr., *Chairman*  
Mrs. Austin E. Schill  
Mrs. Charles W. Latchem  
Mrs. A. G. Lueck  
Mrs. James A. Downing  
Mrs. Thos. A. Burcham

---

## EXECUTIVE BOARD MEETING

The executive board of the Woman's Auxiliary to the Iowa State Medical Society met at the office building of the Iowa State Medical Society, 529 36th Street in Des Moines January 8 at 10:20 a.m. Mrs. Lonnie A. Coffin, Farmington, state president, presided. Following routine business, a discussion concerning plans for the annual meeting was held.

Mrs. Robert N. Larimer, Sioux City, has been appointed to serve as councilor of the Fourth District, due to the resignation of Mrs. John D. Lutton.

Mrs. Harold A. Spilman, Ottumwa, state chairman of the Medical Education Fund, recommended voluntary contributions to this worthy project.

Mrs. Elmer A. Larsen, Centerville, state chairman of *The Bulletin*, has a card file of all 1952 Iowa subscriptions. She suggests a chairman for each Auxiliary and emphasized the valuable aid



contained in *The Bulletin* for officers and chairmen.

Mrs. Lonnie A. Coffin would like names and addresses of newly elected officers and chairmen in each Auxiliary as promptly as possible.

Mrs. Herbert C. Merillat, Des Moines, state chairman of the Committee for the Handicapped, reported five sales sponsored by the Auxiliary during the past year. Articles sold were made by 150 handicapped people, who received a total of \$3,230.00 as a result of the sales. The Des Moines sale realized \$829.10; Dubuque, \$622.00; Fort Dodge, \$463.00; Sioux City, \$1,113.00, and Waterloo, \$686.00.

Dr. Francis C. Coleman, chairman of the Legislative Committee for the Iowa State Medical Society, was the morning speaker. He talked about activities of that Committee and stated that a contact man had been appointed in each of the counties. The Committee is on friendly terms with both the Governor and Lieutenant Governor.

Future legislation will be concerned with the Board of Medical Examiners. A committee has been appointed to try and pattern Iowa's Board after Minnesota's, which makes its own rules and has its own budget. Iowa receives \$18,000.00 for license fees in the general fund, but the Board operates on \$1,800.00. Iowa would like a Board of five instead of three members and the right to retain and to use money received for license fees for operation of the Board. Iowa would like to see temporary license act for residents in training invalid after termination of training.

Reporting on legislation on the national level, Dr. Coleman referred to expanded veterans' care and the growing feeling that hospital care should be confined to service connected illness. There should be some kind of screening for veterans in order to eliminate an unnecessary burden upon the public.

The executive board had lunch at the Hotel Commodore, after which the meeting was resumed. Mrs. Claire A. Mitchell, Cincinnati, committee chairman, led a discussion on the qualifications for honorary life membership in the Auxiliary.

Mrs. William A. Seidler, Jamaica, revisions chairman, discussed confusing and conflicting passages in the Auxiliary By-Laws. She will report further at the next meeting.

MRS. KEITH M. CHAPLER,  
*Publications Chairman*

### COUNTY AUXILIARY ACTIVITIES

Miss Theresa Peterson of Cedar Falls showed slides of her trip to Germany and Denmark at the Tuesday evening meeting of the Black Hawk County Auxiliary to the Medical Society.

The dinner meeting was in the home of Mrs. F. Harold Entz, Waterloo. Members serving on the food committee were Mmes. Entz, T. L. Trunnell and J. L. Kestel.

There were 36 members present.

The Dallas-Guthrie Auxiliary met at the Hotel Pattee, Perry, for a luncheon with the Medical Society members. Following luncheon, Mr. Clarey and Mr. Don Taylor of Des Moines gave talks and answered questions regarding the Blue Cross and Blue Shield plans. Mrs. William C. Wildberger, president, presided at the business meeting. Committee reports were given and committees for 1953 named. Plans for social and nurse recruitment activities were discussed.

MRS. DONALD W. TODD

The regular meeting of the Emmett County Medical Auxiliary was held January 8 at the home of Mrs. Ellis K. Vaubel, Estherville. Officers elected for 1953 are Mrs. D. E. Wolters, president, and Mrs. D. E. Dunn, secretary-treasurer. The February meeting will be a dinner with the husbands.

MRS. JAMES P. CLARK

Newly elected officers of the Polk County Auxiliary are Mrs. Noble Irving, Jr., president; Mrs. Benjamin F. Kilgore, president-elect; Mrs. Herbert C. Merillat, vice president; Mrs. Daniel F. Crowley, Jr., secretary, and Mrs. Daniel W. Coughlan, treasurer. Plans are under way for a dinner dance to be given at the Wakonda Club March 13.

The Wapello County Auxiliary held its monthly meeting January 6 at 6:30 p.m. at the Ottumwa Country Club. Twenty-three members were present. A dinner preceded the meeting. Mrs. Leland H. Prewitt was in charge. Following dinner and the business meeting, Mrs. C. Ray Phelps, president, presented a record of Mr. Willis E. Stone's address, "Price of Freedom." Mr. Stone is the author of the proposed Twenty-third Amendment.

MRS. ROBERT D. DALAGER

### SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

#### HI-FORUM

March 5.....Looking Your Best  
March 12.....Extra-curricular Activities  
March 19.....Dope, Drugs and Smoke  
March 26.....Food and Your Health

WSUI—Tuesday at 11:45

### EVERYDAY HEALTH PROBLEMS

March 3.....Skin Health  
March 10.....Arthritis  
March 17.....Vacations  
March 24.....Accidents  
March 31.....Undulant Fever

### TELEVISION SCHEDULE

WOI-TV—at 9:00 p.m.

March 4.....Depression  
March 18.....Cancer

---

# BLUE CROSS



# BLUE SHIELD

---



THOMAS J. GARBETT, Assistant Executive Director, Iowa Medical Service (Blue Shield).

In the February issue of the JOURNAL we presented the men who are engaged in personal contact with the doctors. This month we want to introduce the man who has the closest contact by correspondence, Mr. Thomas J. Garbett, who is in charge of the Blue Shield Claim Department. Mr. Garbett is 36 years of age, married and a native of Iowa. He completed his education at Simpson College in 1939, after which he entered the Army, serving a period of four years. Three of these years were spent in the European theatre of operations as a forward observer with the 34th Division of the Infantry. He saw service in Africa and Italy. Mr. Garbett was employed by Blue Shield about two and a half years ago from the staff of the Iowa State Medical Society, where he was assistant field secretary. In performing his duties as assistant field secretary for the Society, Mr. Garbett became familiar with the operations of Blue Shield and informed on problems which confront the profession in dealing with Blue

Shield. This training gave him excellent background for his work with Blue Shield. In addition to his experience with the Medical Society, he has held various positions which entailed personnel work, counseling and testing. In view of the fact that the profession is receiving correspondence almost daily from Mr. Garbett, we thought it would be of interest to know a little of his background. Mr. Garbett is guided in his handling of claims by a number of doctors of medicine who counsel with him on all claims that are complicated and out of the routine category. He has a physician who sits with him daily to advise on claim payments as well as any number of doctors who are available to assist him upon his request.

We have taken time to check with the Blue Shield office in order to determine some of the reasons for delays in claim payments:

- (1) Incorrect spelling of names—subscriber and/or patient.
- (2) Incorrect group code and certificate num-



bers. (The members should always be asked to present their latest identification card.)

(3) Doctors' signature not legible. (It would help if the doctor's name could be typed and then have him sign over the typed name.)

(4) Better anatomical identification of fracture cases.

(5) Anesthetists' services should be reported on a separate doctor's service report form from that of the surgeon when the anesthesia is administered by a doctor of medicine.

(6) As complete information as possible regarding treatment of accidental injuries, area involved, number of stitches to close the wound, etc. The report should also reveal the dates services were rendered. Where x-rays are necessary in connection with accidental injuries and they are taken by a physician other than the one treating the accidental injury, separate doctor service reports should be sent to Blue Shield by each physician involved in the case.

(7) Vein ligations. It is necessary to know whether the ligations were high or low, high and low, unilateral or bilateral.

### PARTICIPATING PHYSICIANS' PLAQUES

The Blue Cross-Blue Shield Physician Relations field staff is now in the process of distributing a new and very attractive participating physicians' sign. The new plaque is made of a plastic material which should be much easier to keep clean and far more durable. It is constructed so that it can be hung on the wall or placed on a level surface. The field men will place the new plaques in the physicians' offices who wish to have them on display. The development of the new plaque resulted from many requests from doctors for replacement of the original. We hope the profession will see fit to make use of the plaque because it should encourage Blue Shield members to present their membership cards, eliminating many of the problems which occurred in the past.

### LITERATURE HOLDERS

We have ordered a supply of Blue Cross-Blue Shield literature racks which will be available to any physician on request. The holders are for use in a doctor's reception room to keep Blue Cross-Blue Shield literature in order. It will be the responsibility of the Blue Cross-Blue Shield Physician Relations field men to see that these holders are supplied with up-to-date Blue Cross-Blue Shield reading material.

## MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

### LEGISLATIVE COMMITTEE

Jan. 27, 1953

The Legislative Committee of the Iowa State Medical Society entertained members of the Public Health

Committee of the Senate at a dinner at the Des Moines Club on Tuesday evening, January 27. All members of the Legislative Committee were present, as were members of the Board of Medical Examiners and most of the contact men for the Senators on the committee.

Following the dinner an explanation was given to the Senators of Senate Bill 47, which would make certain changes in the Board of Medical Examiners' organization, duties and renewal fees. The purpose of the meeting was to give the Senators the reasons behind our asking for the change in the Code and to explain the bill to them.

### LEGISLATIVE COMMITTEE

Jan. 29, 1953

The Legislative Committee and officers of the State Society met at the Des Moines Club, Des Moines, Thursday evening, January 29, to discuss with Dr. Bierring the changes being asked in the chapter governing the Board of Medical Examiners, which are embodied in Senate File 47. A recital of the events leading up to the actual writing of the bill was given and excerpts from Dr. Bierring's letter relative to these changes were read. Mr. Myers pointed out that the wording in the bill was based on Dr. Bierring's letter to him written earlier in the fall.

### BOARD OF TRUSTEES

Feb. 1, 1953

The Board of Trustees of the Iowa State Medical Society met in the office building, Sunday morning, Feb. 1, 1953, with the following persons present: Trustees L. A. Coffin and J. W. Billingsley; President B. T. Whitaker, President-Elect R. N. Larimer, Secretary A. B. Phillips, Dr. Bernard, Don Taylor, Mary McCord, and, as a guest, Mr. Harvey T. Sethman, executive secretary of the Colorado State Medical Society.

The meeting was called to order at 10:30 a.m. by Dr. Coffin. He explained that, in accord with the wishes of Dr. Whitaker, president of the Society, the Board of Trustees had asked Mr. Sethman to conduct an efficiency survey of the State Medical Society. He then turned the meeting over to Mr. Sethman.

Mr. Sethman, who had spent two days in Des Moines visiting with personnel at the central office and with various officers and committee chairmen, presented his recommendations to the Board.

Following Mr. Sethman's presentation, the Trustees transacted a few items of routine business. The meeting adjourned at 5:00 p.m.

### LEGISLATIVE COMMITTEE

Feb. 10, 1953

The Legislative Committee of the State Society entertained the 28 members of the Senate at dinner at the Des Moines Club. Officers of the State Society and contact men for these Senators were also present, for a total of 56 persons.

The purpose of this meeting was to explain to the Senators the reasons we are asking for enactment of Senate File 47, which would make certain changes in the Medical Examiners' Chapter of the Code.

---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## POSTGRADUATE MEETINGS FOR 1953-1954

As stated in a previous announcement, the Iowa Academy is planning to make a few changes in its schedule next winter. In the first place, instead of holding our annual business meeting and election of officers at the time of the Iowa State Medical Society meeting in April, 1953, the Board of Directors thought it best to hold it in conjunction with our first postgraduate session in September. For this reason it was decided to have a two day meeting. Wednesday and Thursday, **September 23 and 24**, have been reserved at the Hotel Savery, Des Moines. The scientific program will begin at 10:00 a.m. on September 23 and the annual meeting will begin that afternoon at 3:30. A reception will begin at 6:00 p.m. followed by the banquet at 7 o'clock. Music and entertainment will be provided for the evening. This time it will be a **MUST** to bring your wife.

The program for the second day, Thursday, September 24, will begin at 10:00 a.m. and will run into the afternoon. There will be luncheons at the noon hour on both days. The speakers will have interesting messages.

At this meeting we expect to have a representative of the AAGP Group Plan insurance present to answer questions. We feel that our membership can well afford to investigate this insurance service, both from the standpoint of benefits as well as cost. It is generally thought over the country that this insurance has some outstanding features for the general practitioner and that it adds a splendid advantage to membership.

The meeting on **November 12** will be held at the Warden Hotel, Fort Dodge, this year. Dr. Roger Minkel of Fort Dodge, who was delegated to arrange for this meeting, has done a splendid job. The Webster County Medical Society will be invited to be our guests on that day. We hope to have an excellent attendance.

On **January 21, 1954**, our last meeting of the winter will be held at the Hotel Savery, Des Moines.

Invitations are in the hands of all the speakers for this coming winter's series. Speakers will be announced as soon as possible. An interesting program has been planned and some outstanding speakers have been contacted. We hope our meetings will be even better this next winter.

All speakers have been asked to direct their talks to the general practitioner so he may gain specifically worthwhile information from them.

## IOWA ACADEMY LUNCHEON DURING THE STATE MEETING

Although there will be no business meeting, there will be a luncheon for general practitioners in the Palm Room, Hotel Fort Des Moines, on Monday noon, April 27 during the annual meeting of the Iowa State Medical Society. Sponsored by the Iowa Academy of General Practice, it will be strictly a social get-together. No formal speeches will be arranged. Any questions you may have about our organization will be answered. Bring a prospective member for the Iowa Academy. Tickets will be on sale at the general registration desk.

## LUNCHEON AT THE ST. LOUIS MEETING

Those of you who attended the January postgraduate course will remember that over 20 men indicated they would attend the annual scientific meeting of the American Academy of General Practice to be held in St. Louis March 23-26 this year. We expect that many more will attend. Fifteen of our members attended the Atlantic City meeting, much farther from home, last year. We have arranged to hold an Iowa Academy luncheon on Wednesday noon in the Daniel Boone Room on the mezzanine floor of Hotel Statler. Tickets for this event will be on sale at the general registration desk. Please get them before Tuesday noon if possible so that we may advise the hotel how many to prepare for. You may bring your wife.

## IOWA ACADEMY BOOTH AT THE IOWA STATE MEETING

Two years ago in Sioux City the Iowa Academy of General Practice had a booth, which was well patronized. Last year in Des Moines we did not have one, and saw the need for it because of the number of questions asked. This year we will again have our booth. It is to be in the Mid-Town Rink building where the scientific exhibits are to be held one block west of Hotel Fort Des Moines. Drop in and see us. Bring prospective members around. The booth will be attended at all times.



# THE JOURNAL BOOK SHELF

## BOOK REVIEWS

PHYSICIANS' HANDBOOK, by *Marcus A. Krupp, M.D., Norman J. Sweet, M.D., Ernest Jawetz, M.D., and Charles D. Armstrong, M.D.* (Lange Medical Publications, Los Altos, Calif., 1952, \$2.50).

This is the seventh edition of a familiar handbook which has proven most helpful to medical students in the state of California. The book offers a ready source of factual data, laboratory procedures and clinical aids used in all branches of medicine.—*E. M. George, M.D.*

SEX AFTER FORTY, by *Samuel A. Lewin, M.D., and John Gilmore, Ph.D.* (Medical Research Press, New York, 1952, \$3.50).

This book has been prepared to appeal to men and women who have passed the age of 40. At this period of life, ignorance of the basic facts about sex produces one of the major causes of marital discord. The biological changes are fully explained and further illuminated by 20 actual case histories.—*E. M. George, M.D.*

THE TREATMENT OF INJURIES TO THE NERVOUS SYSTEM, by *Donald Munroe, M.D.* (W. B. Saunders Company, Philadelphia, \$7.50.)

This volume of 284 pages is written primarily for the general practitioner and surgeon.

Munroe's management of head, spinal and peripheral nerve injuries is presented in a concise, almost dogmatic manner, with appropriate illustrations and diagrams. However, the comprehensive and understanding portrayal which serves as a guide in these conditions and in the phases of rehabilitation of the para and quadraplegic patient, secondary to spinal cord injuries, makes this work an essential reference for every neurologic and orthopedic surgeon, hospital administrator and social worker.—*Walter D. Abbott, M.D.*

BASIC MEDICAL PHYSIOLOGY, by *W. B. Youmans, M.D.* (The Year Book Publishers, Inc., Chicago, \$7.50.)

This new book should be of interest to the medical student and practitioner alike. Dr. Youmans has managed to write interestingly, with clarity and brevity, about the essential physiological concepts which give direction to the practice of medicine. Historical perspective and detailed factual material have been kept to a minimum consistent with understanding. Some knowledge of biochemistry and physics is assumed.

The book is divided into subject areas (roughly corresponding to the body systems), which admirably adapts it to either study or review. Each section is complete in itself and contains its own bibliography.

Each section contains references to, and descriptions of basic physiologic processes. For example, following the discussion of "Transmission of Excitation of the Skeletal Neuromuscular Junction," there is a discussion of abnormal conditions (myasthenia, myotonia,

etc.), the treatment of which is based upon an understanding of the mode of action. It is this integration of theory and practice which makes the book of such great interest.—*D. A. Glomset, M.D.*

## BOOKS RECEIVED

AMERICAN POCKET MEDICAL DICTIONARY: A Dictionary of the Principal terms used in Medicine, Nursing, Pharmacy, Dentistry, Veterinary Science and allied biological subjects. Nineteenth edition. *W. B. Saunders Co., Philadelphia, 1953.* Price \$3.25 (plain) and \$3.75 (with thumb index).

THE ANATOMY OF THE NERVOUS SYSTEM, Its Development and Function, by *Stephen Walter Ranson, M.D., Ph.D.,* Late Professor of Neurology and Director of Neurological Institute, Northwestern University Medical School, Chicago; Revised by *Sam Lillard Clark, M.D., Ph.D.,* Professor of Anatomy, the Vanderbilt University School of Medicine, Nashville. Ninth edition. *W. B. Saunders Company, Philadelphia, 1953.* Price \$8.50.

CLINICAL OBSTETRICS, by Members of the Staff of the Pennsylvania Hospital; edited by *Clifford B. Lull, M.D.,* Late Director, Division of Obstetrics and Gynecology, Pennsylvania Hospital; and *Robert A. Kimbrough, M.D.,* Director of the Division of Obstetrics and Gynecology, Pennsylvania Hospital; Professor of Gynecology and Obstetrics, Graduate School of Medicine, University of Pennsylvania; Gynecologist to the Graduate Hospital. *J. B. Lippincott Co., Philadelphia, 1953.* Price \$10.00.

A DOCTOR'S SOLILOQUY, by *Joseph Hayyim Krimsky, M.D.* Philosophical Library, New York, 1953. Price \$2.75.

ENDOCRINE TREATMENT IN GENERAL PRACTICE, by *Drs. George E. Anderson, Karl M. Bowman, Charles W. Dunn, Ernest Falconer, S. J. Glass, Joseph W. Goldzieher, Max A. Goldzieher, Gilbert S. Gordan, Dan M. Gordon, George J. Hall, Thomas J. Kirwin, Charles W. Lloyd, Thomas H. McGavack, Olof H. Pearson, A. E. Rakoff, Frederick Reiss, Bram Rose, E. Kost Shelton, Robert F. Skeels, Somers H. Sturgis, and Warren O. Nelson, Ph.D.* Edited by *Drs. Max A. Goldzieher and Joseph W. Goldzieher.* Springer Publishing Co., Inc. New York, 1953. Price \$8.00.

GIFFORD'S TEXTBOOK OF OPHTHALMOLOGY, by *Francis Heed Adler, M.D.,* Professor of Ophthalmology, University of Pennsylvania Medical School, Consulting Surgeon, Wills Eye Hospital, Philadelphia. Fifth edition. *W. B. Saunders Co., Philadelphia, 1953.* Price \$7.50.

HANDBOOK OF ORTHOPAEDIC SURGERY, by *Alfred Rives Shands, Jr., B.A., M.D.,* Medical Director of the Alfred I. duPont Institute of the Nemours Foundation, Wilmington, Delaware; Visiting Professor of Orthopaedic Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pa.; in Collaboration with *Richard Beverly Raney, B.A., M.D.,* Professor of Surgery in Orthopaedic Surgery, University of North Carolina, Chapel Hill, N. C.; Lecturer in Orthopaedics, Duke University School of Medicine, Durham, N. C. Fourth Edition. *The C. V. Mosby Co., St. Louis, 1952.* Price \$8.00.

A MANUAL OF CLINICAL ALLERGY, by *John M. Sheldon, M.D.,* Professor of Internal Medicine, University of Michigan Medical School; Assistant to the Chairman of the Department of Postgraduate Medicine; Physician in charge of University of Michigan Allergy Clinics; Director of the Montgomery Allergy Research Laboratory; *Robert G. Lovell, M.D.,* Instructor in Internal Medicine, University of Michigan Medical School, and *Kenneth P. Mathews, M.D.,* Assistant Professor of Internal Medicine, University of Michigan Medical School. *W. B. Saunders Co., Philadelphia, 1953.* Price \$8.50.

OFFICE MANAGEMENT OF OCULAR DISEASES, by *William F. Hughes, Jr., M.D.,* Professor and Head, Department of Ophthalmology, University of Illinois College of Medicine; Ophthalmologist-in-Chief, Illinois Eye and Ear Infirmary, and Attending Ophthalmologist, Presbyterian Hospital, Chicago, 1953. Price \$9.00.

TREATMENT OF MENTAL DISORDER, by *Leo Alexander, M.D.,* Director, the Neurobiological Unit, Division of Psychiatric Research, Boston State Hospital, and Instructor in Psychiatry, Tufts Medical School. *W. B. Saunders Company, Philadelphia, 1953.* Price \$10.00.

---

# STATE DEPARTMENT OF HEALTH

*Walter Diering*

---

## REFUSE DISPOSAL BY SANITARY LANDFILL

A survey conducted in the late spring of 1951 by the Institute of Public Affairs of the State University of Iowa in cooperation with the Iowa State Department of Health revealed a growing and continuing problem throughout the state, the adequate disposal of garbage and rubbish. The survey stated that "the collection and disposal of refuse is a problem wherever people congregate." Whether they are clustered in small towns or crowded together in large cities, there is a natural accumulation of refuse that must be disposed of in some manner. The methods employed may affect the health of the entire community. The report further states, "Improper disposal of garbage is a direct invitation for the presence and multiplication of rodents and insects. Rats are important agents in the transmission of such diseases as typhus fever, salmonellosis, Weil's disease, plague and trichinosis, while flies are recognized as transmitters of intestinal diseases such as typhoid fever and dysentery. Uncooked garbage can result in transmission of trichinosis and vesicular exanthema. Improper disposal of garbage can be unsightly, and values of nearby property usually decrease because of the nuisance condition created. Dumping into streams is prohibited by Section 732.3 of the Statutes, Code of Iowa, relating to public health.

The answer to many of these problems lies in sanitary landfill or a modification of this approach. It is a scientific method divided into two types, briefly described as follows:

I. The Trench Method. (1) A trench is dug, (2) a day's collection of refuse is dumped into the trench, (3) it is spread and thoroughly compacted by mechanical equipment, (4) the compacted material is promptly covered with the excavated earth and (5) the earth is tamped in place over the compacted refuse.

II. The Area Method, in which only steps 3, 4, 5 are carried out. These methods involve the use of mechanical equipment for digging the trench, spreading the refuse, compacting and covering. Equipment used in some operations consists mainly of a track-type tractor with specially designed bucket. This type performs all the operations—digging, transporting dirt fill, pushing and piling the garbage and refuse, compacting and tamping the material solidly.

Many of the smaller towns faced with lower revenue from taxes can conduct the operations with borrowed or rented equipment, designed so that it will complete all essential operations. However, the larger cities must use the more expensive and heavier equipment.

What then are the advantages of the sanitary landfill?

- 1) The compacted refuse is enclosed in a series of earth cells so that smoke and fire is prevented.
- 2) The compacted covered refuse offers no harborage or available food for rats.
- 3) Prompt covering prevents breeding of insects such as flies and mosquitoes.
- 4) Odors are controlled by the use of prompt and adequate cover.
- 5) The fill area may be converted into a recreational park or other uses.

It is recommended that cities and towns contemplating the correction of their garbage disposal problems investigate the landfill method.

---

## RABIES IN ANIMALS IN IOWA IN 1952

### ANNUAL SUMMARY

In 1952 there were 228 cases of rabies in animals reported in Iowa, as compared with 404 cases in 1951. Cases were reported among nine different species of animals. The decrease in total number of cases is due mainly to a decrease in cases among dogs. In 1952, there were only 38 rabid dogs reported in contrast to 165 for the previous year. The lowered incidence among dogs is due largely to the fact that dog rabies outbreaks in several counties were brought under control through coordinated rabies control programs consisting of vaccination of owned dogs, elimination of stray and ownerless dogs and a dog quarantine or tie-up period.

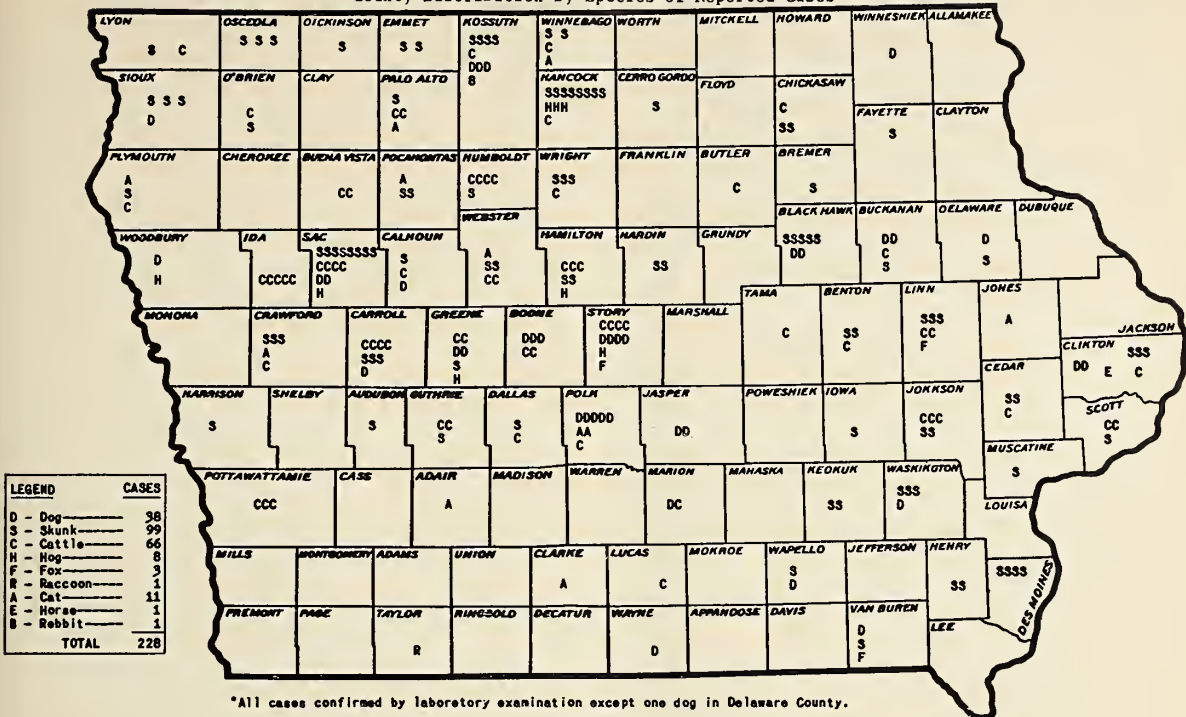
The greatest decline in dog rabies occurred in Polk and Webster Counties. In Polk County there were 5 reported cases compared with 86 in 1951. In Webster County there 13 rabid dogs reported in 1951 and none in 1952. These marked declines are the result of well coordinated rabies control programs in these two counties.

Among skunks there were 98 cases reported in 1951 as compared with 99 in 1952. Thus for the past year, there were about two and one half



## RABIES IN ANIMALS IN IOWA IN 1952

### County Distribution by Species of Reported Cases\*



times as many rabid skunks as rabid dogs reported.

As shown on the map above, rabid animals were reported from 65 counties. With this widespread reservoir of infection present in the state, the need for annual anti-rabies vaccination of all dogs is apparent.

## REPORT OF TUBERCULOSIS FIELD PROGRAMS

RALPH H. HEEREN, M.D., *Director*

July 1, 1952 to December 31, 1952

In reporting this summary we wish to call attention to the fact that it represents the activities of the accelerated case-finding program of the first full six months period that it has been in action, with four trailers operating rather than two as previously. For example, during the six month period the county-wide program was completed in 15 counties as opposed to 7 during the same period last year.

Programs for this period were carried out in accordance with recommendations of the State Board of Health, made at their July meeting at which time they approved raising the age level for the county-wide program to seventh grade and over. Aside from the counties in which planning had previously been made to include those at school level, we have followed the program of the higher age level. Monona County, for example, with the program planned for April, was delayed because of floods. When the program was carried out in September, because of previous commit-

ments, the previous age admission level was used.

Forty-nine county-wide programs have been completed in the state so far. Miniature films have been taken in two or more counties and the 14 by 17-inch re-take films are scheduled for January.

Detailed tabulation of statistical information by means of I.B.M. punch cards was started late in 1952. Webster County figures are in the process of being analyzed at the present time. Information from this type of card permits a much more complete statistical analysis than we had previously been able to obtain.

COUNTY WIDE PROGRAMS  
15 Counties

**TUBERCULOSIS:**

Active	Probably Inactive	Healed	Actv. Undet.	Total
66	79	139	56	340
Healthy Chests		14" x 17" Films		Number of Min. Films
441		1596		181,097

815 Persons were found to have 1 or more nontuberculous findings, totalling 1313.

CONTACT PROGRAMS  
31 Counties

**TUBERCULOSIS:**

Active	Probably Inactive	Healed	Actv. Undet.	Total
54	62	188	38	342
Healthy Chests			Total 14" x 17" films taken	
1096				1927

489 persons were found to have 1 or more nontuberculous findings, totalling 746.

Nurse Visits:		Mantoux Tests:	
Homes .....	1601	Positive .....	190
Physicians .....	448	Negative .....	593
Histories written ..	3094		

Thirteen of the 31 Contact Programs were conducted by county nurses, the remainder by our four field staff nurses. Continuous follow-up is maintained by the nurses who cooperate with the physicians in carrying out recommendations made by the radiologist. One of our veteran staff nurses, Mrs. Ann Garrard Keene, resigned in September. The position has not been filled. The state has been redistricted into three parts, with additional counties assigned to each of the three staff nurses.

Requests for x-ray examinations came from schools, colleges, county homes, private industry and from a few communities. The x-ray examinations covered teachers, high school pupils, cooks, janitors, bus drivers, food handlers, industrial employees, and the population, in certain communities. Practically all programs were held in cooperation with the Contact Programs. Approximately 5,466 miniature films were taken by our Unit. In many localities large films were taken locally.

#### SPECIAL PROGRAMS 17 Counties

##### TUBERCULOSIS:

Active	Probably Inactive	Healed	Actv. Undet.	Total
2	2	14	2	20
Healthy Chests			Total 14" x 17" films taken	
62			122	

40 persons were found to have 1 or more nontuberculous findings, totalling 62.

July 1, to Dec. 31, 1952

Total Miniature films taken .....	186,463
Total 14" x 17" films taken .....	3,645
Total probable Tbc. cases .....	702

#### ANALYSIS OF NONTUBERCULOUS FINDINGS IN ALL PROGRAMS

Thoracic Cage Anomaly.....	17	Possible Neoplasm.....	50
Lung Anomaly.....	1	Fibrosis-cause unknown.....	131
Bone Lesion.....	33	Bronchiectasis Suspect.....	55
Pleural Abnormality.....	262	Atelectasis.....	30
Post-operative chest.....	77	Emphysema.....	71
Abnormal Diaphragm.....	39	Mediastinal Mass.....	55
Coin Lesion.....	51	Abnormal Aorta.....	73
Hilar Node Calcification.....	390	Abnormal Heart size/ Contour .....	144
Calcif. Diffuse Granulo- matous Lesions.....	251	Increased Bronchovascular Markings.....	13
Pneumonitis.....	150		

#### HOSPITALIZED:

Broadlawns .....	18	S.U.I. College Hospital ..	4
Oakdale .....	90	Veterans Administration (Iowa) .....	28
Sunnyslope .....	19	All Others .....	32
Sunnycrest .....	9	Not Hospitalized or not stated .....	85
Pine Knoll .....	14		
River Heights .....	1		
State Mental Hospitals ..	41		

#### Number of cases of probable tuberculosis found in:

Contact Programs .....	342
County-Wide Programs .....	340
Special Programs .....	20

X-ray interpretations were referred to the family physicians for final diagnosis. Confirming diagnoses have been received on 10 cases.

Iowa Methodist Hospital, Des Moines, reported the following on admission x-rays taken July 1, to Dec. 31, 1952.

Pneumonia .....	137	Tuberculosis Suspects ..	12
Cardiac .....	151	Cancers and Tumors ....	42

#### MORBIDITY REPORT

DISEASE	JAN. 1953	DEC. 1952	JAN. 1952	MOST CASES REPORTED FROM THESE COUNTIES
Diphtheria	4	2	8	Harrison 2, Mills 2
Scarlet Fever	147	120	45	Allamakee, Des Moines, Woodbury
Typhoid Fever	5	0	2	Cedar, Lee, Linn, O'Brien, Polk
Smallpox	0	0	0	.....
Measles	421	373	132	Adams, Iowa, Linn
Whooping Cough	17	22	5	Cherokee, Polk, Scott
Brucellosis	21	22	19	Polk 5, Webster 2, others scattered 1 case to a county
Chickenpox	1040	704	374	Des Moines, Linn, Polk, Story
Meningococcus Meningitis	10	3	3	Scattered
Mumps	169	174	184	Des Moines, Dubuque, Polk
Poliomyelitis	7	39	2	Clarke 2, Clinton, Decatur, Ida, Scott, Washington, 1 each
Rabies in Animals	18	7	16	Scattered 6 counties reported 2 each, others scattered 1 to a county
Infectious Hepatitis	106	79	78	Polk, Scott, Wapello
Tuberculosis	48	42	36	For the state
Gonorrhea	118	38	25	For the state
Syphilis	178	57	151	For the state

#### NEW DEAN CHOSEN FOR COLLEGE OF MEDICINE

Word has just been received that a new dean of the College of Medicine has been appointed. Dr. Norman Bartram Nelson, now assistant dean at the University of California at Los Angeles, will take over in July. More information about him will appear in the April JOURNAL, which is the College of Medicine issue.

We welcome Dr. Nelson's appointment and pledge him the support of the medical profession in the state of Iowa.

Number of cases of tuberculosis reported for the first time, July 1 to Dec. 31, 1952 ..... 341

#### STAGE:

Minimal .....	51	Far Advanced .....	103
Moderately Advanced ....	88	Not Classified .....	66

#### SOURCE OF REPORT:

Private Physician .....	19		
Sanatoria:			
Broadlawns .....	18	Interstate & V.A.C. ....	44
Oakdale .....	90	S.U.I. Laboratory (Positive Sputum) ....	23
Sunnyslope .....	19	Death Certificate .....	20
Sunnycrest .....	9	Mental Hospitals .....	40
Pine Knoll .....	14	All Others .....	9
River Heights .....	1		
Veterans Adm. ....	35		



---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Black Hawk

Dr. William C. Keettel, assistant professor of obstetrics and gynecology at the State University of Iowa, spoke on the "Changing Attitude in Operative Obstetrics" at the January 20 meeting of the Black Hawk Medical Society at the Elks Club, Waterloo. The speaker at the February 10 meeting was Robert P. Glover, M.D., clinical professor of thoracic surgery at the Hahnemann Medical College, Philadelphia. His subject was cardiac surgery. The group met at the Elks Club.

---

### Calhoun

Dr. Roy G. Klockslem, Rockwell City, is new president of the Calhoun County Medical Society. He was elected at the January 22 meeting of the Society held in Lake City. Other officers are Drs. Paul Ferguson, vice-president; Ashton McCrary, secretary-treasurer; John H. Faust, delegate, and David C. Carver, alternate delegate. Drs. Faust and Carver are from Manson and Rockwell City, respectively. The other officers are located in Lake City.

---

### Cass

Dr. John F. Moriarty, Atlantic, was elected president of the Cass County Medical Society at its annual dinner meeting at Hotel Whitney, Atlantic, January 12. Other officers named were Drs. Llewelyn L. Long, vice president, and Dwain E. Wilcox, secretary-treasurer. They are also residents of Atlantic.

---

### Davis

Dr. Edwin O. Gilfillan, Bloomfield, was elected president of the Davis County Medical Society at the December 30 meeting. New vice president is Dr. S. R. Jaskunas, Dr. W. David Hauke is secretary-treasurer, and Dr. Paul T. Meyers was elected delegate. Dr. Henry C. Young was honored for 50 years service as secretary-treasurer and was named secretary emeritus for life.

---

### Dubuque

Dr. James W. Culbertson, director of the Cardiovascular Laboratory and associate professor of internal medicine at the State University of Iowa, was guest speaker at the Dubuque County Medical

Society meeting. The group met January 13 at the Elks Club, Dubuque. At the February 10 meeting the guest speaker was Dr. Robert T. Tidrick, head of the department of surgery, University Hospitals, Iowa City.

---

### Harrison

Dr. Hans Hansen, Logan, was elected president of the Harrison County Medical Society at their January 5 meeting at The Tamarack, Missouri Valley. Dr. Francis X. Tamisea, Missouri Valley, was elected secretary. The Society donated \$100 to the March of Dimes polio funds, and heard Dr. Ross LeMere, Veterans Hospital, Omaha, discuss hypertension.

---

### Jackson

Dr. Owen L. Frank, Maquoketa, has been elected president of the Jackson County Medical Society. Other officers are Drs. Warren C. Zabloudil, Preston, vice-president, and John J. Tilton, Bellevue, secretary-treasurer. Dr. Robert A. Towle, Davenport, was principal speaker at the annual meeting.

---

### Johnson

Dr. Charles D. May, professor and head of the department of pediatrics, University Hospitals, Iowa City, spoke on "Management of Acute Severe Illness in Infancy and Childhood" at the February 4 meeting of the Johnson County Medical Society. The group met at the Jefferson Hotel, Iowa City. Dr. Robert Gauchat presented a case report.

---

### Linn

Dr. Philip Thorek, Chicago, spoke on "The Acute Abdomen" at the January 8 meeting of the Linn County Medical Society. The group met at the Montrose Hotel, Cedar Rapids. Guest speaker for the December 11 meeting, held at the Roosevelt Hotel, was Dr. Ethan A. Brown, Boston, Mass. Dr. Brown discussed allergic diseases.

---

### Osceola

Dr. Eerko S. Aeilts was re-elected president of the Osceola County Medical Society at the annual dinner meeting January 9 at Cedar Cabin, Ashton. All officers were re-elected for the coming

year. Dr. James H. Thomas, Jr., Sibley, was named delegate. The Society voted to invite members of the Lyon County Medical Society to join the group in a combined meeting.

---

### Polk

Dr. E. Parish Lovejoy, Des Moines, was chosen president-elect of the Polk County Medical Society, to serve in 1954, at the annual dinner meeting of the Society held January 21 at the Hotel Savery, Des Moines. Dr. Floyd M. Burgeson was installed as the 1953 president. Other officers chosen were Drs. Francis C. Coleman, re-elected secretary-treasurer; Herman J. Smith, trustee, and Richard F. Birge, councilor-at-large. Drs. Simon E. Lincoln and William B. Chase, Sr., were presented 50-year certificates of merit by the Iowa State Medical Society. Life memberships in the Polk County Society were awarded Dr. Oran W. King, Dr. Edward R. Posner, Sr., and Dr. Robert A. Weston.

In a program illustrated by lantern slides, Dr. Tom B. Throckmorton, outgoing president, cited living past presidents of the Society and furnished a personal sketch of the men.

---

### Pottawattamie

Plans for a one day medical meeting with several nationally prominent speakers, to be held in Council Bluffs May 19 at the Hotel Chieftain, were made at the January 20 meeting of the Pottawattamie County Medical Society. The meeting will be opened to members of the profession in western Iowa and eastern Nebraska. A film and talk on "The Preparation of Lenses for Glasses" was presented by Dr. W. Clark Giles, Max Shipley and Rowland Meyer.

---

### Sac

The Sac County Medical Society met in Sac City for their regular meeting January 8. The program included a history of the Society by Dr. J. H. Stafford, Sac City, and Dr. Louis H. Jones, Wall Lake.

---

### Scott

Dr. Alson E. Braley, head of the department of ophthalmology, University Hospital, Iowa City, spoke to the Scott County Medical Society February 3 on the topic, "The Ophthalmologist as an Aid in the Diagnosis of Thyroid Diseases." Dr. Thomas W. McMeans was elected as paid part-time public relations representative for the Society. He will act as a clearing agent for press and radio-television news and as spokesman for the Society on public relations matters.

### Southwestern Iowa Medical Society

The members of the Southwestern Iowa Medical Society met at the Country Club, Mount Ayr, January 14. It was the first meeting sponsored by the Ringgold County Medical Society. Guest speaker was Dr. David A. Culp, assistant professor of urology at the State University of Iowa. His subject was "Urological Problems in General Practice."

---

### Wapello

Dr. Paul C. Hodges, professor of radiology, the University of Chicago, Chicago, discussed "X-Ray Diagnosis of Diseases of the Colon" at the February 6 meeting of the Wapello County Medical Society. The group met at St. Joseph's Hospital, Ottumwa.

---

### PERSONALS

**Dr. Edward M. Eneboe**, formerly of Alcester, S. D., has associated with **Drs. Frederick F. Null** and **David K. Haggart**, Hawarden. Dr. Eneboe was graduated from the Northwestern University Medical School, Chicago, in 1943. He interned at Cook County Hospital, Chicago.

---

**Dr. Rubin H. Flocks**, Iowa City, has been appointed editorial advisor on urology for the monthly, *Current Medical Digest*.

---

**Dr. James J. Hea, Jr.**, formerly of Muscatatuck, Ind., has located in Guttenberg. Dr. Hea was graduated from the Northwestern University Medical School, Chicago, in 1951. The following year was spent interning at the Passavant Memorial Hospital, Chicago.

---

**Dr. E. Clifford Heinmiller**, formerly of Fort Madison, has accepted a position as member of Hines Veterans Hospital, Chicago.

---

**Dr. Richard M. Moore**, Des Moines, has entered association with **Drs. Parker K. Hughes** and **H. Kirby Shiffler**, Des Moines. Following graduation from the SUI College of Medicine in 1946, Dr. Moore spent a year interning at Iowa Methodist Hospital, Des Moines. He completed two and one half years of residency in obstetrics and gynecology at St. Louis University School of Medicine, St. Louis, in July, 1952. Dr. Moore spent six months, beginning in July, 1952, as a resident in pathology at Iowa Methodist Hospital.

---

**Dr. Richard W. Nicholson**, formerly of Paton, has located in Peterson. He was graduated from



the Harvard Medical School in 1948. Dr. Nicholson was incorrectly listed in the February issue as Robert W., a 1943 graduate of Temple University School of Medicine, Philadelphia, Pa.

**Dr. Raymond G. Welsch**, formerly of Sheboygan Falls, Wis., has located in Creston with **Drs. John A. Liken** and **Robert H. Kuhl**. Dr. Welsch was graduated from the St. Louis University School of Medicine, St. Louis, in 1941. Following his internship, Dr. Welsch spent two years in pediatrics residency at Milwaukee County General Hospital, Milwaukee, Wis.

1893 graduate of Keokuk College, Dr. McDonald spent a year at the West Side Hospital, Chicago, as a postgraduate student. He was a life member of the Cerro Gordo and Iowa State Medical Societies.

**Dr. Albert Andrew Schultz**, 65, retired Fort Dodge physician, died January 12 at Veterans Hospital, Des Moines, where he had been a patient since last summer because of failing health. Dr. and Mrs. Schultz moved to Des Moines a year ago, following his retirement. He was a member of the Webster County and Iowa State Medical Societies until his retirement.

## DEATH NOTICES

**Dr. Earl Blaine Bush**, 68, died at his home in Ames January 14 of a heart attack. Dr. Bush, a past president of the Iowa State Medical Society and a member of both the State and Story County Medical Societies, was graduated from the Drake University School of Medicine in 1908. The lifetime of his practice was spent in Ames.

**Dr. Charles Herman DeWitt, Jr.**, 66, died January 15 in Oakland, Iowa. A 1910 graduate of the Creighton University School of Medicine, Dr. DeWitt was a member of the Pottawattamie County and Iowa State Medical Societies.

**Dr. Paul Erastus Gardner**, 79, New Hampton physician for more than 50 years, died January 7 at St. Joseph's Hospital several days after being committed with a paralytic stroke. Dr. Gardner was graduated from the SUI College of Medicine in 1896. He was a life member of the Chickasaw County and Iowa State Medical Societies.

**Dr. George Clifton Giles**, 83, died January 21 in his Oakland home. Death was due to a liver ailment. Dr. Giles was graduated from the Queen's University Faculty of Medicine, Kingston, Ontario, Canada, in 1893. He was a life member of the Pottawattamie County and Iowa State Medical Societies.

**Dr. Christian Bateman Luginbuhl**, 70, died January 16 at Iowa Methodist Hospital, Des Moines, several days after surgery for a stomach illness. Dr. Luginbuhl was graduated from Rush Medical College, Chicago, in 1914, and completed his internship at Presbyterian Hospital, Chicago. He was a member of the Polk County and Iowa State Medical Societies until his death.

**Dr. James Edward McDonald**, 85, died January 23 at his Mason City home following an illness. An

**Dr. Franklin Charles Smith**, 85, Mount Ayr EENT specialist for over 55 years, died January 20 at the Ringgold County Hospital. He had been in ill health for the past year. An 1893 graduate of the Hospital College of Medicine, Louisville, Ky., Dr. Smith was a life member of the Ringgold County and Iowa State Medical Societies.

**Dr. Edward Day Taylor**, 76, retired Bettendorf ophthalmologist, died January 27 in Riverdale Lodge, Bettendorf. Dr. Taylor was graduated from Rush Medical College, Chicago, in 1903. He was a life member of the Scott County and Iowa State Medical Societies.

**Dr. Ambrose E. Wanamaker**, 86, Hamburg physician for nearly 56 years, died January 13 after an illness of about two weeks. Dr. Wanamaker was a graduate of the University Medical College of Kansas City, Mo., in 1897. He was a life member of the Fremont County and Iowa State Medical Societies.

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of February 10, 1953

Ackerman, J. H., Clarksville (Tallahassee, Fla.)	...Senior, Asst. Surg., U.S.P.H.S.
Ashby, J. D., Davenport (Battle Creek, Mich.)	.....Major, U.S.A.
Bartholomew, R. D., Lake City (Walnut Creek, Calif.)	.....Lt. (j.g.), U.S.N.R.
Benton, J. S., Des Moines	.....1st. Lt., A.U.S.
Bogle, W. C., Marion (Great Lakes, Ill.)	.....Lt., U.S.N.R.
Braatelen, N. T., Des Moines (Camp Carson, Colo.)	.....1st. Lt., U.S.A.F.
Couchman, P. G., Des Moines (San Antonio, Tex.)	.....1st. Lt., U.S.A.F.
Davidson, M. C., Emmetsburg (El Paso, Tex.)	.....Col., A.U.S.
Donahoe, J. F., Fort Dodge (Camp Atterbury, Ind.)	.....1st. Lt., U.S.A.F.
Dooley, J. E., Fort Dodge (Pleasanton, Calif.)	.....Capt., U.S.A.F.

From, Paul, West Des Moines  
(San Antonio, Texas) .....1st. Lt., U.S.A.F.  
Gladstone, W. S., Jr., Iowa City  
(Crestview, Fla.) .....U.S.A.F.  
Greco, D. J., Des Moines  
(APO San Francisco, Calif.) .....1st. Lt., A.U.S.  
Hickman, D. M., Indianola  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.  
Horton, R. R., Algona  
(Seattle, Wash.) .....Lt., U.S.N.R.  
Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) .....Capt., U.S.A.F.  
Johnson, M. H., Iowa City  
(APO New York, N. Y.) .....Capt., A.U.S.  
Kenney, B. E., Woodbine .....1st Lt., U.S.A.F.  
Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) .....Lt., U.S.N.R.  
Kuehn, W. G., Clarinda  
(APO San Francisco, Calif.) ....Lt. (j.g.), U.S.N.R.  
Kurth, R. J., Waterloo  
(Minneapolis, Minn.) .....Capt., U.S.A.F.  
Leiter, E. R. K., Des Moines  
(Bangor, Me.) .....Capt., U.S.A.F.  
Martins, J. K., Waterloo  
(New London, Conn.) .....Lt., U.S.N.R.  
Middleton, W. H., Central City  
(Quantico, Va.) .....U.S.N.R.  
Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) .....Lt. Col., A.U.S.  
Neagle, P. E., Dubuque  
(Sault Ste. Marie, Mich.) .....Capt., A.U.S.  
Nordin, C. A., Des Moines  
(Lackland Field, Texas) .....1st. Lt., U.S.A.F.  
Paul, R. E., Des Moines  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.  
Puntenney, A. W., Boone  
(Portsmouth, Va.) .....Lt., U.S.N.R.  
Ruble, R. L., Nevada  
(Camp Chaffee, Ark.) .....A.U.S.  
Saunders, R. J., Colfax  
(Great Falls, Mont.) .....1st. Lt., U.S.A.F.  
Schlichtemier, E. O., Peterson  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.  
Schultz, M. H., Waterloo.....Capt., U.S.A.F.  
Shaffer, F. J., Iowa City.....Col., U.S.A.F.  
Shulderberg, Arthur, Des Moines  
(Gunter AFB, Ala.) .....1st. Lt., U.S.A.F.  
Smith, C. B., Iowa City  
(Ft. Sam Houston, Texas) .....Capt., A.U.S.  
Stutsman, R. E., Washington  
(Miami, Fla.) .....Cmdr., U.S.N.  
Theilen, E. O., Iowa City  
(Washington, D. C.) .....Capt. A.U.S.  
Thistlewaite, E. A., Des Moines  
(Riverside, Calif.) .....1st. Lt., U.S.A.F.  
Thompson, J. W., Ames .....  
Thornton, F. E., Des Moines  
(Portsmouth, Va.) .....Lt. Cmdr., U.S.N.R.  
Tice, W. K., Iowa City  
(Kansas City, Kan.).....1st Lt., A.U.S.  
Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) .....1st Lt., A.U.S.  
Uchiyama, J. K., Des Moines  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.  
Vincent, J. F., Fort Dodge  
(Langley A.F.B., Va.) .....Capt., U.S.A.F.  
von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) .....Lt., U.S.N.R.  
Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) .....U.S.N.R.

Waldmann, E. B., Council Bluffs  
(Santa Ana, Calif.) .....Lt., U.S.N.R.  
Walston, J. H., Graettinger  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.  
Walz, D. V., Le Mars  
(Sioux Falls, S. D.) .....1st. Lt., U.S.A.F.  
Wehrmacher, W. H., Iowa City  
(Oceanside, Calif.) .....U.S.N.R.  
Wiedemeier, J. L., Sioux City  
(APO San Francisco, Calif.) .....1st. Lt., A.U.S.  
\*Wilkins, D. S., Iowa City  
(APO San Francisco, Calif.) .....Capt., A.U.S.  
Witte, H. J., Marathon  
(APO San Francisco, Calif.) .....Lt. Col., A.U.S.  
Young, R. A., Clarion  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.  
Zeilenga, R. H., Orange City  
(Madison, Wisc.) .....1st. Lt., U.S.A.F.

#### PRESIDENTS AND SECRETARIES CONFERENCE TO BE HELD MARCH 4

All county society presidents and secretaries have received invitations to an all-day conference to be held in the new building Wednesday, March 4. The Board of Trustees will give a report on organization matters; legislation, both state and national, will be discussed; the new loan fund for medical students will be explained; progress report on the Grievance Committee given; new contracts of Blue Cross-Blue Shield explained; standards of county hospitals gone into as thoroughly as possible; proper division of fees presented, and several projects of the Committee on Medical Service will be proposed.

Blue Cross-Blue Shield will be hosts at luncheon.

It is hoped every county medical society will send at least two representatives. Some of these subjects present problems in every county.

#### SUI SYMPOSIUM ON RETINAL DISEASES

The department of ophthalmology, SUI College of Medicine, has arranged a symposium on retinal diseases, to be held March 30 and 31. Registration is open to ophthalmologists. The conference will be held in Room 405, University Hospital. Applications may be sent with fee (\$50.00) to Director of Postgraduate Studies, Room 259, Medical Laboratories Building, Iowa City.

#### AMA "DEAR DOCTOR" FILM

The new 15 minute documentary short, DEAR DOCTOR, may be procured from your State Office Speakers Bureau. This film may be used in schools, churches, farm groups, etc. Do not miss this opportunity of presenting an up-to-the minute AMA public relations film.



# IOWA STATE MEDICAL SOCIETY

## Officers and Committees, 1952-1953

President ..... Ben T. Whitaker, Boone  
 President-Elect..... Robert N. Larimer, Sioux City  
 First Vice President..... Elias B. Howell, Ottumwa  
 Second Vice President..... Lester C. Kern, Waverly  
 Secretary..... Allan B. Phillips, Des Moines  
 Treasurer..... N. Boyd Anderson, Des Moines

### COUNCILORS

First District—Cluley C. Hall, Maynard.....1955  
 Second District—Charles H. Cretzmeyer, Algona.....1953  
 Third District—Matthew T. Morton, Estherville.....1954  
 Fourth District—Paul W. Brecher, Storm Lake.....1955  
 Fifth District—Ernest M. Kersten, Fort Dodge.....1954  
 Sixth District—Otis D. Wolfe, Marshalltown.....1955  
 Seventh District—Harold A. Housholder, Winthrop.....1953  
 Eighth District—Clyde A. Boice, Washington, Secretary.....1954  
 Ninth District—Elias B. Howell, Ottumwa.....1953  
 Tenth District—Ivan K. Sayre, St. Charles.....1954  
 Eleventh District—Oscar Alden, Red Oak.....1955

### TRUSTEES

Lonnie A. Coffin, Farmington, Chairman.....1953  
 John W. Billingsley, Newton.....1954  
 Wendell L. Downing, LeMars.....1955

### DELEGATES TO A. M. A.

George Braunlich, Davenport.....January 1, 1955  
 Donald C. Conzett, Dubuque.....January 1, 1955  
 Gerald V. Caughlan, Council Bluffs.....January 1, 1954

### ALTERNATE DELEGATES TO A. M. A. Term Expires

Frank G. Ober, Burlington.....January 1, 1955  
 Otis D. Wolfe, Marshalltown.....January 1, 1955  
 Donovan F. Ward, Dubuque.....January 1, 1954

### EXECUTIVE COUNCIL

Ben T. Whitaker, Chairman.....Boone  
 Robert N. Larimer.....Sioux City  
 Allan B. Phillips.....Des Moines  
 N. Boyd Anderson.....Des Moines  
 Lonnie A. Coffin.....Farmington  
 John W. Billingsley.....Newton  
 Wendell L. Downing.....LeMars  
 Cluley C. Hall.....Maynard  
 Charles H. Cretzmeyer.....Algona  
 Matthew T. Morton.....Estherville  
 Paul W. Brecher.....Storm Lake  
 Ernest M. Kersten.....Fort Dodge  
 Otis D. Wolfe.....Marshalltown  
 Harold A. Housholder.....Winthrop  
 Clyde A. Boice.....Washington  
 Elias B. Howell.....Ottumwa  
 Ivan K. Sayre.....St. Charles  
 Oscar Alden.....Red Oak  
 George Braunlich.....Davenport  
 Donald C. Conzett.....Dubuque  
 Gerald V. Caughlan.....Council Bluffs

### THE JOURNAL

Everett M. George.....Des Moines

## Standing Committees of the House of Delegates

### COMMITTEE ON ARRANGEMENTS

Ben T. Whitaker, Chairman.....Boone  
 Robert N. Larimer.....Sioux City  
 Allan B. Phillips.....Des Moines  
 N. Boyd Anderson.....Des Moines

### COMMITTEE ON CONSTITUTION AND BY-LAWS

George C. Albright, Chairman.....Iowa City  
 Henry C. Scharnweber.....Boone  
 Floyd M. Burgeson.....Des Moines

### GRIEVANCE COMMITTEE

Leo C. Kuhn, Decorah.....1954  
 Leslie W. Swanson, Mason City.....1953  
 Thomas L. Ward, Arnolds Park.....1954  
 John W. Bushnell, Sioux City.....1953  
 Lester D. Powell, Des Moines.....1954  
 S. Dale Porter, Grinnell.....1953  
 Joseph W. Lawrence, Dubuque.....1954  
 William C. Goenne, Davenport.....1953  
 Elmer A. Larsen, Centerville.....1954  
 Lester E. Hooper, Indianola.....1953  
 Charles H. Flynn, Clarinda.....1954

### LEGISLATIVE COMMITTEE

Frank C. Coleman, Chairman.....Des Moines  
 John W. Billingsley.....Newton  
 John D. Conner.....Nevada  
 Ben T. Whitaker.....Boone  
 Allan B. Phillips.....Des Moines

### COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

Donald C. Conzett, Chairman.....Dubuque  
 F. Harold Entz.....Waterloo  
 Lee F. Hill.....Des Moines  
 John H. Randall.....Iowa City  
 George H. Scanlon.....Iowa City

### MEDICOLEGAL COMMITTEE

Loren K. Meredith, Chairman, Des Moines.....1955  
 Eugene F. Van Epps, Iowa City.....1954  
 Van C. Robinson, Des Moines.....1953

### COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman.....West Des Moines

### Insurance

Martin I. Olsen.....Des Moines

### Public Information—Doctor-Patient Relationships

Otto N. Glesne, Chairman.....Fort Dodge  
 Donovan F. Ward.....Dubuque  
 Cecil W. Seibert.....Waterloo  
 Edward H. Files.....Cedar Rapids  
 William M. Sproul.....Des Moines

### Veterans' Affairs

Roy C. Gutch.....Chariton

### Allied Professions

James E. Reeder, Chairman.....Sioux City

John B. Thielen.....Fonda  
Eugene Smith.....Waterloo

**Labor and Industry**

Tom D. Throckmorton .....Des Moines

**Hospital and Professional Relations**

Callistus H. Stark, Chairman.....Cedar Rapids  
Ernest M. Kersten.....Fort Dodge  
Gordon F. Harkness.....Davenport  
Richard F. Birge.....Des Moines  
Charles T. Maxwell.....Sioux City  
Wayne K. Cooper.....Cedar Rapids  
Nathaniel G. Alcock.....Iowa City

**Relief and Health Agencies**

Frank D. McCarthy, Chairman.....Sioux City  
Social Welfare—Channing Smith\*.....Granger  
TB and Heart—Ralph E. Smiley.....Mason City  
Polo—Don H. Penly.....Cedar Falls  
Crippled Children, Cancer, Red Cross, Women's Clubs,  
AAUW, etc.—John C. De Meulenaere.....Grinnell

**Health Education**

Joseph G. Fellows, Chairman.....Ames

Iowa Rural Health Council—  
John D. Conner.....Nevada  
John J. Shurts.....Eldora

**Industrial Health**

Raymond F. Frech, Chairman.....Newton  
Howard H. Smead.....Des Moines  
Stanley T. Moen.....Cedar Rapids  
Christian B. Luginbuhl\*.....Des Moines  
Harold A. Spilman.....Ottumwa  
Carl J. Lohmann.....Burlington  
Leo J. Miltner.....Davenport  
Harry A. Amesbury.....Clinton

**Rural Health**

Dwight G. Sattler, Chairman.....Kalona  
Elmer A. Larsen.....Centerville  
Bruce F. Howar.....Webster City  
James M. Tierney.....Carroll  
Robert S. Jaggard.....Oelwein

**Geriatrics**

Charles V. Edwards.....Council Bluffs

## Special Committees of the House of Delegates

**BALDRIDGE-BEYE MEMORIAL COMMITTEE**

James W. Agnew, Chairman.....Davenport

**CANCER COMMITTEE**

Arthur W. Erskine, Chairman\*.....Cedar Rapids  
Donovan F. Ward.....Dubuque  
Edmund G. Zimmerer.....Des Moines  
Harold W. Morgan.....Mason City  
Vernon W. Petersen.....Clinton  
Walter J. Balzer.....Davenport  
Siegmund F. Singer.....Ottumwa  
John B. Thielen.....Fonda  
Kenneth R. Cross.....Iowa City  
J. Donald Hennessy.....Council Bluffs  
Richard F. Birge.....Des Moines

**FRACTURE COMMITTEE**

Dwight C. Wirtz, Chairman.....Des Moines  
Lee R. Martin.....Council Bluffs  
William M. Kristgen.....Sioux City  
Carroll B. Larson.....Iowa City  
Robert M. Wray.....Cedar Rapids

**GENERAL PRACTICE COMMITTEE**

Joseph G. Fellows, Chairman.....Ames  
Cecil V. Hamilton.....Garner  
J. Stewart Jackson.....Mount Pleasant  
Thomas D. Kas.....Sutherland  
Charles A. Nicoll.....Panora

**HEART COMMITTEE**

Herbert W. Rathe, Chairman.....Waverly  
Forrest H. Coulson.....Burlington  
Kenneth K. Hazlet.....Dubuque  
Eugene B. Floersch.....Council Bluffs  
John C. Shrader.....Fort Dodge

**HISTORICAL COMMITTEE**

Walter L. Bierring, Chairman.....Des Moines  
Jeannette Dean-Throckmorton.....Des Moines  
Clyde A. Henry.....Farson  
John T. McClintock.....Iowa City  
Charles L. Jones.....Gilmore City  
Clyde A. Boice.....Washington  
Draper Long.....Mason City

**COMMITTEE ON MATERNAL AND CHILD HEALTH**

Clarence P. Phillips, Chairman.....Muscatine  
Robert M. Collins.....Council Bluffs  
Howard A. Weiss.....Davenport  
Harold E. Farnsworth.....Storm Lake  
Robert H. McBride.....Sioux City  
Lee F. Hill.....Des Moines  
Carl A. Hanson.....Waterloo  
Maryelda Rockwell.....Clinton

**MENTAL HEALTH COMMITTEE**

John I. Marker, Chairman.....Davenport  
Herbert C. Merillat.....Des Moines  
Leo B. Sedlacek.....Cedar Rapids  
Marcus B. Emmons.....Clinton  
Charles C. Graves.....Des Moines  
William E. Ash.....Council Bluffs  
Gerald R. Rausch.....Sioux City

**NATIONAL EMERGENCY MEDICAL SERVICE COMMITTEE**

John W. Ferguson, Chairman.....Newton  
Edward M. Honke.....Sioux City  
Frank G. Ober.....Burlington  
William I. Evans.....Sac City  
Ross P. Rusk.....Dubuque  
Robert C. Hardin.....Iowa City

**SCIENTIFIC EXHIBITS COMMITTEE**

James T. McMillan, Chairman.....Des Moines  
Rubin H. Flocks.....Iowa City  
Willard S. Phetepiece.....Davenport

**SPEAKERS BUREAU COMMITTEE**

Robert B. Stickler, Chairman.....Des Moines  
Charlotte Fisk.....Des Moines  
Gerald F. Keohen.....Dubuque  
Arthur D. Woods.....State Center  
Willis M. Fowler.....Iowa City  
Carroll A. Brown.....Sioux City  
Harold Margulies.....Des Moines

**TUBERCULOSIS COMMITTEE**

Ralph E. Smiley, Chairman.....Mason City  
John C. Parsons.....Des Moines  
J. Carl Painter.....Dubuque  
Leon J. Gallinsky.....Des Moines  
William Spear.....Oakdale

\* Deceased



# *The* JOURNAL

*of the*

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, APRIL, 1953

No. 4

### *To the Members of the Iowa State Medical Society—*

Once again members of the faculty of the College of Medicine of your state University have the privilege of offering the scientific papers for an issue of *The JOURNAL*. The faculty appreciates this privilege and the opportunity it carries to be of service to the physicians of Iowa.

It seems fitting at this time to mention some changes which have taken place in the College during the past year. Last July we lost by retirement several distinguished professors. The College acknowledges its debt of gratitude for the many years of devoted service given by these men, and gives expression to its sorrow for the recent death of Dr. Philip C. Jeans.

Despite these losses the faculty feels that the College continues to advance. We are especially fortunate in the splendid group of new department heads, most of whom have come to us from other institutions. A number of very fine men have also been appointed to junior positions. It is clear that while our faculty is not quite numerically at par for the increased enrollment of medical students, it has been materially strengthened by the high quality of the men who have joined us.

From the standpoint of physical arrangements, current remodelling in the hospitals is improving our teaching and service facilities and plans are being made to bring the space and facilities of the school and hospitals to the level required by modern medical education and service, provided funds can be secured.

The faculty appreciates the aid to instruction afforded by grants from the American Medical Education Foundation and wishes to thank all members of the State Society who have contributed to the Foundation or directly to the College.

W. M. FOWLER, M.D.  
Chairman, Executive Committee  
College of Medicine  
State University of Iowa

## EPIDEMIOLOGY OF POLIOMYELITIS

FRANKLIN H. TOP, M.D.

IOWA CITY

POLIOMYELITIS is an infectious disease which primarily affects the central nervous system. In clinical form it is variable in severity and occurrence of paralysis. Epidemiology is difficult to define but may briefly be called the natural history of disease. It should include all facts which can be brought to bear on the occurrence, such as a consideration of pathologic changes and clinical manifestations, but these will not be considered here. While an enormous amount of research has been carried out on poliomyelitis in the last three decades, the facts are not sufficiently clear, sifted, weighted and categorized for an acceptable understanding of the natural history of this disease.

The information available on poliomyelitis does not suffer in comparison with that extant for measles, but the many hypotheses formulated for it do not appear to be in accord with presently regarded fact. The body of information we now possess may be accounted as valid, although its interpretation is open to variation by workers in the field.

## HISTORY

The origin of poliomyelitis is obscure. The disease likely occurred in ancient times, for the atrophy or wasting of extremities has been recorded in stone in Egypt as early as 1600 B.C. What meager information there is would seem to indicate sporadic outbreaks. It is only in the past century that the disease appears to have become epidemic; and the magnitude of epidemics has increased considerably in recent years. During the Renaissance Bosch in his *Procession of the Cripples*, depicts what now appears to be paralytic poliomyelitis. The first clinical account was given by an Englishman, Underwood, in 1784. The systematic description of poliomyelitis by Heine<sup>1</sup> in 1840 and Medin<sup>2</sup> in 1891 did much to call attention to the disease in the Nineteenth Century. Medin studied the Stockholm epidemic of 1877 and Wickman<sup>3</sup> the outbreak which occurred in Sweden in 1905. The latter presented evidence for the infectious nature of poliomyelitis and traced the infection from person to person. Landsteiner and Popper<sup>4</sup> successfully transmitted the experimental infection to monkeys, with production of flaccid paralysis.

## ETIOLOGICAL AGENT

The infectious agent appears one of the smallest filtrable viruses known to be pathogenic for man. The estimated size in its smallest diameter is 8-12 millimicrons ( $\mu$ ) by ultracentrifugation, and from 10-25  $\mu$  as determined by the electron

microscope. The length of the virus is still not certain. Its exact shape rests upon further purification of concentrated preparations. The virus is resistant to ether and phenol and to drying and freezing, but is readily destroyed by oxidizing agents, ultraviolet rays and heat. A chlorine residual of .2 ppm. is probably sufficient for disinfection of drinking water. This concentration is recommended by the U. S. Public Health Service.

Three immunologically distinct types of poliomyelitis virus are recognized: types 1, 2 and 3.<sup>5</sup> They are more commonly known as Brunhilde, Lansing and Leon, respectively. Present evidence indicates that the three types are worldwide in distribution and that each type has several differentiable strains.<sup>6</sup>

Virus may be found in pharyngeal secretions in one half of patients, and in their feces in a still greater proportion. Virus has been isolated from the tonsils and throats of apparently healthy children.<sup>7a</sup> It is not commonly found in cerebrospinal fluid or in the blood of man, but recently a viremia was noted early in orally inoculated monkeys and chimpanzees.<sup>8a, b</sup>

The virus propagates in experimental animals, in tissue cultures containing nerve tissue; in cultures containing live human embryonic muscle, gut, skin or central nervous system tissue,<sup>9</sup> and in foreskin<sup>10</sup> and testicular tissue<sup>11</sup> of animals.

## GEOGRAPHIC, CLIMATIC AND SEASONAL DISTRIBUTION

Epidemic poliomyelitis was thought at first to be limited almost entirely to the temperate zones, as early reports were most frequently noted from countries and continents in these zones. However, the infection is probably widespread throughout the world, as evidenced by reports of epidemics in tropical countries<sup>12</sup> and in frigid, arctic Canada<sup>13</sup> and Iceland.<sup>14</sup> In general, the disease is more prevalent in epidemic form in temperate zones. Though epidemics may occur in the tropic and frigid zones, they are small and are infrequently noted.

Poliomyelitis may occur at any season of the year, but it generally is most prevalent in the late spring, summer and early fall. The peak of an epidemic usually occurs in late summer or early fall in the north and somewhat earlier in the south. Roughly, one half of the cases in an outbreak have occurred by the time the peak is reached, usually in two months, whereas the remaining half will accumulate somewhat more slowly in from two to four months, and cases may continue to be recognized in the early and late winter months.

## PREVALENCE

Although some epidemics are sizeable, the number of reportable cases is not as great as for some other diseases. At all ages and in the worst epidemics the average number of individuals affected ranges between one and three per 1,000 of the

Professor and Head, Department of Hygiene and Preventive Medicine, College of Medicine, State University of Iowa, Iowa City.



population; in moderate to severe outbreaks one per 10,000, and in a mild year, one to three per 100,000. Severe outbreaks have not occurred in successive years in the same community, but minor outbreaks may do so. Severe epidemics are likely to occur in larger communities every three to seven years.

#### OCCURRENCE

Poliomyelitis has been present for many centuries, but until recently it was known largely by its paralytic manifestations. Nonparalytic poliomyelitis has been widely recognized only in the last half century. However, both paralytic and nonparalytic cases form only a small proportion of the total number of infections prevalent in a population group. Poliomyelitis infection appears to be as widely spread as is measles. It may manifest itself either clinically in a mild unrecognized form or, more frequently perhaps, in a subclinical form. Mild illnesses occurring in families with definite cases are often diagnosed on epidemiologic grounds, although studies on such patients have revealed virus in pharyngeal secretions and in stools, or on subsequent serologic tests showed evidence of infection with the virus. It has been estimated that the proportion of unrecognized to recognized cases is in the ratio of 100:1. Thus poliomyelitis is a widespread, universal infection common to most people.

#### AGE

Poliomyelitis is for the most part a disease of children, with the highest incidence under age ten. Among more primitive cultural groups, particularly in tropical and semitropical areas, the majority of cases develop under the age of five years. This is particularly true of the paralytic disease. There has been a decided shift in the United States in age selection, noticeable since 1920, but more striking after 1945. The phenomenon of age shift has also been reported from other countries where polio is epidemic.

Children are being attacked at older ages, and the number of patients at teen-age, or 20 years and over has increased. Up to and including 1926, mortality rates for poliomyelitis showed the age group 0-4 with the highest rates. By 1945 the age groups 5-9 and 10-14 had the highest rates. The proportion of paralytic cases also has increased in the older age groups. This is particularly true of rural cases in the United States. Differences between urban and rural populations with respect to age distribution of cases have been evident for many years, indicating that exposure to infection or manifest disease is postponed longer in rural communities. The same may be inferred from the age trends in present population groups compared with those studied several decades ago.

#### SEX AND RACE

As with many other infectious diseases, males

are affected more commonly than females. The excess varies by locality and epidemic so that the ratio of male to female patients ranges usually from 3:2 to 5:4. Racial differences have not been satisfactorily studied in the past. Until recently it was commonly held that the Negro race was less susceptible than the white. In cities where the Negro population is large and where segregation is not marked, it appears that case incidence is less dependent on color than upon the vagaries of chance with relation to the areas of the cities most heavily affected, for during both endemic and epidemic years, distribution of cases by district varies considerably.

#### RESERVOIR

The reservoir of infection is human, and animals are not as yet known to harbor poliomyelitis under natural conditions. Domestic animals do not appear to be susceptible. Human cases and carriers harbor the virus, the former in pharyngeal secretions early in the course of the disease and later in stools, while carriers probably harbor the agent only in stools.

The virus has been recovered from the pharynx from 5 days before<sup>17</sup> to 14 days after the first sign of illness<sup>18</sup> by swab, throat washings or tissue examination; in roughly 40 per cent of cases during the early days of illness,<sup>19, 18</sup> a period during which some cases have appeared to be most infectious,<sup>20, 21</sup> and from healthy carriers.<sup>7a, 7b</sup>

The specific agent has been found in the stools of nearly all patients. It has been noted as long as 19 days before the onset of paralysis<sup>22</sup> to over 100 days after so-called abortive illnesses.<sup>23</sup> In contacts, virus has been recovered with a frequency roughly proportional to intimacy with the case, more commonly in children than in adults. The relative importance of the two prime sources of virus cannot be determined at present. It is readily understandable that isolations from pharyngeal washings would likely be less frequent and contain less virus than from stools because the momentary wash sample is obtained from the pharyngeal area, while the fecal samples would represent at least a day's accumulations under normal circumstances, disregarding for the moment the probability of propagation of virus in the intestinal canal. The primary source of infection may arise from either origin, but considering the apparent greater infectiousness of the early case and the relative lack of evidence of secondary cases following contact with fecal carriers during convalescence, it is possible that the pharyngeal secretions are the more likely source in contact infections, while feces may be the source of non-contact infections and in subclinical infections during nonepidemic periods.

#### ESCAPE FROM THE RESERVOIR

Until feces were found to harbor the virus of poliomyelitis it was generally believed that man

was infected usually by inhalation of droplets from nose or throat. Following experimental infections in monkeys and chimpanzees, contact with feces appeared more important. Many investigators now hold to this. In quite recent epidemics, however, virus has been thought to escape by droplets.<sup>24</sup>

#### TRANSMISSION

Although transfer of virus to new human hosts can conceivably take place in a number of ways, it is quite generally agreed that it is spread largely by means of human contact. The exact mechanism is still obscure. Ready experimental infection of *macacus rhesus* monkeys by the nasal route resulted in the erroneous inference that transmission of virus to man commonly occurred in a similar manner. Subsequent ease of isolation of virus from stools emphasized the possible role of feces in transmission of infection.

The major work of Wickman<sup>3</sup> was carried out in small rural communities. Here transmission from one patient to another appeared to be operative. In 1918, Lavinder, Freeman and Frost<sup>25</sup> reported on the 1916 epidemic in New York City, which added materially to the evidence that poliomyelitis is spread by human contact. These workers showed that the disease spread radially from an original focus and that concentric zones, roughly a mile wide, spread at intervals from the site of the first case. The spread was relatively slow and orderly. This phenomenon has been observed in many other epidemics in which the analysis was not limited to a small geographic area. With the present trend toward urbanization, it becomes increasingly more difficult to trace disease by person to person contact, although early in an outbreak it can be done.<sup>26</sup> Further, the high infection rate among familial contacts and the rather slow dissemination of manifest disease from one household to another suggests that intimate contact is necessary.

The question of transfer of virus to new hosts by contact with pharyngeal secretions or feces has not been settled. If it were not for the fact that virus is infrequently found in the saliva, little additional evidence would be needed for spread by pharyngeal secretions. In favor of this mode of transmission are the following findings: (1) virus is found early in the disease, (a critically infectious period), (2) virus is found in pharyngeal secretions more commonly in children, who are much more likely to come intimately in contact with their fellows than adults, (3) persistent presence of virus in stools has not been connected frequently with an expected appearance of secondary cases and, (4) although the season of recognizable cases coincides with that for enteric diseases such as dysentery and typhoid fever, sanitary measures and better personal and home hygiene have nearly eliminated typhoid fever and

have relegated dysentery to a relatively benign disease; yet poliomyelitis apparently is increasing in incidence.

The apparent propagation of virus in the alimentary tract and daily excretion in large quantities by cases and carriers alike, and for long periods, makes transfer of infection by hand passage and indirect-contact contamination quite feasible. Due weight must be accorded this means of spread.

There may be additional avenues of spread. Virus has been recovered from houseflies and filth-flies in the neighborhood of cases during epidemic periods.<sup>27</sup> There is no direct evidence that flies play any important role in human disease. They are probably passive carriers, but with the potentiality of spreading the virus to food or drink. Fly suppression with DDT during poliomyelitis epidemics has not resulted in demonstrable control of the infection, though the same procedure in poor economic areas has affected the incidence of dysentery during the summer months (fly season). Blood sucking arthropods have not been incriminated to date.<sup>28</sup>

Food may be a vehicle. It has been implicated in a few outbreaks following the use of raw milk. Although virus is present in raw sewage in epidemic areas, Maxcy<sup>29</sup> finds no evidence that water may serve as a vehicle.

The *portal of entry* in man is almost certainly by mouth. Whether this leads to the upper respiratory tract as the route of invasion to the central nervous system, or whether the alimentary tract is so implicated is not clear. The olfactory tract has been ruled out as a common invasion site. If concentration of virus in cells is a criterion of route of invasion, the evidence for entry via the pharynx or intestinal canal is considerable, based on experimental infections in animals. In human beings, virus has been found frequently in one or more places in the alimentary tract, excluding the esophagus and stomach.<sup>30</sup> The pharynx is a receptacle for both nasal and mouth secretions. All ingested material passes there. Whether or not virus is propagated in the cells where it is found is still conjectural, although the large amount of virus recovered in stools indicates that this is so.

The virus appears to travel along nerve paths rather than along the lymphatics or by blood stream. However, the latter possibility has been enlarged by recent work of Horstmann<sup>3a</sup> and Bodian<sup>3b</sup> on experimental animals. Their work indicates the presence of viremia early in the prodromal stage. Virus extends along the central nervous system or sympathetic fibers, or the sensory or motor fibers. It may travel in a centripetal or centrifugal manner.

Transmission of infection in poliomyelitis has been difficult of solution. Many of the hypotheses which have been submitted appear to be more or less sound, but there are findings which tend to conflict with other known facts, so that at the



present time it can only be stated that transfer of infection is by contact between persons.

#### IMMUNITY

The opportunity of developing poliomyelitis in a recognizable form is not great. The chance of a second attack would be much less, although it does occur. But obvious disease is hardly the criterion of infection in poliomyelitis. There is ample evidence to indicate that most people are susceptible to infection, although in most instances it is subclinical in character. Virus is widely disseminated and, at least against the Lansing type, is worldwide in distribution, while antibodies against both the Brunhilde and the Leon types have been obtained from sera from widely scattered areas.<sup>31a, b, c</sup> Turner's work<sup>32</sup> on antibody distribution against a Lansing strain in various age groups in childhood corresponds with age specific attack rates in the same locality. In 1930, Aycock and Kramer<sup>33</sup> produced evidence which indicated that a high proportion of adults in urban communities showed neutralizing antibodies, while the sera of adults in rural communities where clinical poliomyelitis was unknown protected monkeys on subsequent virus challenge in 50 per cent of instances. The chance that a second attack is due to another strain is difficult to demonstrate in man, as Bodian<sup>34</sup> has shown.

Experimental poliomyelitis in monkeys results in resistance to reinoculation with the homologous virus during convalescence, but after a year a second attack may occur so that protection is not absolute against the homologous strain. Further, there is no significant cross protection against heterogenous strains. For animals the evidence is valid. Whether man reacts to the various strains in this manner is conjectural. As far as can be determined, most individuals are susceptible but soon come in contact with one or another of the poliomyelitis virus strains; for the majority of them this means subclinical infection, and for the occasional person, manifest disease.

#### AUTARCEOLOGIC FACTORS

If poliomyelitis is as widespread as it is believed to be, it is important to inquire as to the reasons why so few develop manifest disease and why a still smaller number develop paralysis. It does not appear that a satisfactory answer has been given by a study of parasite factors, nor by the ordinary immune processes of the host, so that many investigators, particularly epidemiologists, have looked to mechanisms other than antiviral. Aycock referred to such mechanisms as autarceologic factors, by which he meant those physiologic processes which condition an individual's reaction to the introduction of the parasite, in this

instance the virus of poliomyelitis. This phenomenon of physiologic resistance he called autarcesis.<sup>35</sup> A number of these factors are enumerated and briefly discussed.

*Age* seems to have an effect on the severity of paralysis. Lenhard<sup>36</sup> shows the increase of severe types and fatalities with advancing age. In Sweden, Olin<sup>37</sup> found that fatality rates for adults over 25 were two to five times greater than for children under seven years of age. This appears to be particularly true for the bulbar type of the disease. The greater involvement at older ages also holds true for cases. In addition, respiratory difficulties are greater in older age groups.

For many years clinicians have felt that *stress*, undue fatigue or overtiring have an adverse effect on persons in the incubating or early clinical period of poliomyelitis. A study of cases and controls indicated this<sup>38</sup> and recently others have confirmed it.<sup>38a, b, c</sup> An animal study<sup>39</sup> indicates that stress may be an important mechanism in the occurrence of paralysis.

*Dietary deficiencies* have been considered with relationship to experimental production of poliomyelitis infection in animals.<sup>40a, b, c</sup>

*Preceding illness* has also been accounted as a factor.<sup>41</sup>

*Body type* was considered by Draper<sup>42</sup> as important. He delineated a particular pattern which bordered on an *endocrine imbalance*. Aycock<sup>43</sup> has emphasized the latter and reported the increased excretion of estrogenic substances in the urine of paralytic patients. In this connection, Aycock<sup>44</sup> and many others have called attention to the high incidence of poliomyelitis in *pregnancy*. The same author has studied the *hereditary* susceptibility to the paralytic forms of poliomyelitis within family groups, traced back for many generations.<sup>45</sup> *Tonsillectomy and adenoidectomy* or any operation about the nasopharynx seems to predispose, according to some, to a greater occurrence of poliomyelitis shortly after the operative procedure. The procedure most certainly results in a greater occurrence of the severe type of paralysis (bulbar or bulbospinal<sup>46</sup>). It has recently been demonstrated that the occurrence of these severe types is significantly higher in individuals with tonsils or adenoids removed, irrespective of the time elapsed between the operation and the disease.<sup>47</sup> *Inoculation with antigenic substances* has been implicated in the occurrence of paralytic disease, when injections were given shortly before the onset of poliomyelitis.<sup>48a, b, c</sup>

Unfortunately, the nature of autarceologic factors is not well understood. It cannot be evaluated, but evidence has increased over the past two decades which indicates that in some instances at least they may play an important role in causation of the paralytic as against the nonparalytic disease, and even of nonparalytic disease against subclinical infection.

*Environmental factors* have recently been con-



sidered by Armstrong, who calls attention to seasonal variation<sup>49</sup> and the effect of atmospheric conditions<sup>50</sup> on incidence of poliomyelitis.

#### SUMMARY

Poliomyelitis is a common infection of man which uncommonly results in manifest disease, paralysis or death. Man is the only known reservoir of infection. Transmission is principally by contact with an infected person. Investigations into the reason for the occurrence of paralysis in so few persons has not led to a satisfactory answer, but further study of physiologic factors that may condition reaction in the host to virus invasion appears to present a challenge for the future.

#### BIBLIOGRAPHY

1. Heine, J.: Beobachtungen über Lähmungszustände der untern Extremitäten und deren Behandlung. Stuttgart, 1840 F. H. Köhler.
2. Medin, O.: Ueber eine Epidemie von spinaler Kinderlähmung. Verhandl. d. 10. Internat. med. cong., Berlin, 2:6 Abth. 37-47, 1891.
3. Wickman, O. I.: Acute poliomyelitis. Nervous and Mental Disease Monograph Series No. 16, New York, 1913. J. Nervous and Mental Disease Pub. Co.
4. Landsteiner, K., and Popper, E.: Uebertragung der Poliomyelitis acuta auf Affen. Zeitschr. f. Immunitätsforsch. u. exper. Therap., 2:377-390, 1909.
5. Bodian, D.; Morgan, I. M., and Howe, H. A.: Differentiation of types of poliomyelitis viruses, III; the grouping of 14 strains into three basic immunological types. Am. J. Hyg., 49:234-245 (March) 1949.
6. The Committee on Typing of the National Foundation for Infantile Paralysis: Immunologic classification of poliomyelitis viruses. I: a cooperative program for the typing of one hundred strains. Am. J. Hyg., 54:191-204 (September) 1951.
- 7a. Kessel, J. F., and Moore, F. J.: Occurrence of poliomyelitis virus in tonsils and stools of noncontacts during an interepidemic period. Am. J. Hyg., 41:25-29 (January) 1945.
- 7b. Howe, H. A., and Bodian, D.: Isolation of poliomyelitis virus from the throats of symptomless children. Am. J. Hyg., 45:219-222 (March) 1947.
- 8a. Horstmann, D. M.: Poliomyelitis virus in blood of orally infected monkeys and chimpanzees. Proc. Soc. Exp. Biol. & Med., 79:417-419 (March) 1952.
- 8b. Bodian, D.: Pathogenesis of poliomyelitis. Am. J. Pub. Health, 42:1388-1402 (November) 1952.
9. Enders, J. F.; Weller, T. H.; Robbins, F. C.: Cultivation of Lansing strain of poliomyelitis virus in cultures of various human embryonic tissues. Science, 109:85-87 (Jan. 28) 1949.
10. Weller, T. H.; Robbins, F. C., and Enders, J. R.: Cultivation of poliomyelitis virus in cultures of human foreskin and embryonic tissues. Proc. Soc. Exp. Biol. & Med., 72:153-155 (October) 1949.
11. Scherer, W. F.; Butorac, G., and Syvertson, J. T.: Cultivation of poliomyelitis virus in monkey testicular tissue. Federation Proc., 10:417 (March) 1951.
12. Paul, J. R.; Ramirez, Corria F., and Horstmann, D. M.: Analyses from a tropical epidemic of poliomyelitis which occurred in Florida and Cuba in 1946. Am. J. Trop. Med., 29:543-554 (July) 1949.
13. Peart, A. F. W.: Outbreak of poliomyelitis in Canadian Eskimos in winter time, epidemiological features. Canad. J. Pub. Health, 40:405-417 (October) 1949.
14. Sigurjonsson, J.: Epidemiologic characteristics of poliomyelitis in Iceland. Am. J. Hyg., 51:109-125 (January) 1950.
15. Dauer, C. C.: Trends in age distribution of poliomyelitis in United States. Am. J. Hyg., 48:133-146 (September) 1948.
16. Maclean, F. S.: Poliomyelitis in New Zealand, 1947-49. New Zealand Department of Health, Annual Report of the Director General, 1949-1950, p. 90.
17. Gordon, F. B.; Schabel, F. M., Jr.; Casey, A. E., and Fishbein, W. I.: Recovery of poliomyelitis virus from throat during incubation period. J.A.M.A., 135:884-888 (Dec. 6) 1947.
18. Pearson, H. E.; Rendtorff, R. C., and others: Studies of distribution of poliomyelitis virus in urban area during epidemic. Am. J. Hyg., 41:188-210 (March) 1945.
19. Horstmann, D. M.; Melnick, J. L., and Wenner, H. A.: Isolation of poliomyelitis virus from human extra-neural sources; comparison of virus content of pharyngeal swabs, oropharyngeal washings, and stools of patients. J. Clin. Investigation, 25:270-274 (March) 1946.
20. Aycock, W. L., and Kessel, J. F.: Infectious period of poliomyelitis and virus detection. Am. J. M. Sc., 205:454-465 (March) 1943.
21. Casey, A. E.: Place of contact and radial spread of epidemic poliomyelitis. Am. J. Dis. Child., 69:152-156 (March) 1945.
22. Brown, G. C.; Francis, T., Jr., and Pearson, H. E.: Rapid development of carrier state and detection of poliomyelitis virus in stool 19 days before onset of paralytic disease. J.A.M.A., 129:121-123 (Sept. 8) 1945.
23. Lepine, P.; Sedallian, P., and Sautter, V.: Sur la presence de virus poliomyelitique dans les matieres fecales et sa longue duree d'elimination chez un porteur sain. Bull. Acad. de Med., Paris, 122:141-149 (July 18) 1939.
24. Rhodes, A. J.: Acute anterior poliomyelitis; survey of present knowledge with particular reference to method of spread. Bull. Hyg., 22:353-385 (June) 1947.
25. Lavinder, C. H.; Freeman, A. W., and Frost, W. H.: Epidemiologic studies of poliomyelitis in New York City and the northeastern United States during the year 1916. Pub. Health Bull., No. 91, July, 1918.
26. Top, F. H., and Vaughan, H. F.: Epidemiology of poliomyelitis in Detroit in 1939. Am. J. Pub. Health, 31:777-790 (August) 1941.
27. Melnick, J. L.: Isolation of poliomyelitis virus from single species of flies collected during an urban epidemic. Am. J. Hyg., 49:8-16 (January) 1949.
28. Ward, R.; Horstmann, D. M., and Melnick, J. L.: Isolation of poliomyelitis virus from human extra-neural sources; IV. Search for virus in blood of patients. J. Clin. Investigation, 25:284-286 (March) 1946.
29. Maxcy, K. F.: Supposed involvement of water supplies in poliomyelitis transmission. J. Am. Water Works Assn., 41:696, 1949.
30. Sabin, A. B.: Bela Shick lecture: studies on natural history of poliomyelitis. J. Mt. Sinai Hosp., 11:185-206 (Nov.-Dec.) 1944.
- 31a. Bodian, D.: Neutralization of 3 immunological types of poliomyelitis virus by human gamma globulin. Proc. Soc. Exper. Biol. & Med., 72:259-261 (October) 1949.
- 31b. Paul, J. R.; Riordan, J. T., and Melnick, J. L.: Antibodies to 3 different antigenic types of poliomyelitis virus in sera from north Alaskan Eskimos. Am. J. Hyg., 54:275-285 (September) 1951.
- 31c. Paul, J. R.; Melnick, J. L.; Barnett, V. H., and Goldblum, N.: Survey of neutralizing antibodies to poliomyelitis virus in Cairo, Egypt. Am. J. Hyg., 55:402-413 (May) 1952.
32. Turner, T. B.; Hollander, D. H., and others: Age incidence and seasonal development of neutralizing antibodies to Lansing poliomyelitis virus. Am. J. Hyg., 52:323-347 (November) 1950.
- 33a. Aycock, W. L., and Kramer, S. D.: Immunity to poliomyelitis in normal individuals in urban and rural communities as indicated by neutralization test. J. Prev. Med., 4:189-200 (May) 1930.
- 33b. Aycock, W. L., and Kramer, S. D.: Immunity to poliomyelitis in mothers and newborn as shown by neutralization test. J. Exper. Med., 52:457, 1930.
34. Bodian, D.: Second attacks of paralytic poliomyelitis in human beings in relation to immunity, virus types and virulence, with a report of two cases, and four other individuals in Baltimore, 1944, infected with virus of the Leon type. Am. J. Hyg., 54:174-190 (September) 1951.
35. Aycock, W. L.: The Epidemiology of Poliomyelitis. Transactions of Section on Pediatrics of the American Medical Association, 1932.
36. Lenhard, R. E.: Prognosis in poliomyelitis. J. Bone & Joint Surg., 32:71-79 (January) 1950.
37. Olin, G.: Epidemiologic pattern of poliomyelitis in Sweden from 1905 to 1950. Poliomyelitis: Papers and Discussions Presented at the Second International Poliomyelitis Conference, 1951. 367-375, 1952.
- 38a. Russell, W. R.: Poliomyelitis, preparalytic stage and effect of physical activity on severity of paralysis. Brit. Med. J., 2:1023, 1947.
- 38b. Horstmann, D. M.: Acute poliomyelitis; relation of physical activity at time of onset to course of disease. J.A.M.A., 142:236-241 (Jan. 28) 1950.
- 38c. Albrecht, R. M., and Locke, F. B.: Effect of physical activity on prognosis of poliomyelitis. J.A.M.A., 146:769-771 (June 30) 1951.
39. Levinson, S. O.; Milzer, A., and Lewin, P.: Effect of fatigue, chilling and mechanical trauma on resistance to experimental poliomyelitis. Am. J. Hyg., 42:204-213 (September) 1945.
- 40a. Cottingham, E., and Mills, C. A.: Influence of environmental temperature and vitamin deficiency upon phagocytic function. J. Immunol., 47:493, 1943.
- 40b. Rasmussen, A. F.; Waisman, H. A.; Elvehjem, C. A., and Clark, P. F.: Studies on nutritional requirements of rhesus Monkey. J. Nutrition, 26:205-218 (August) 1943.
- 40c. Foster, C.; Jones, J. H.; Henle, W., and Dorfman, F.: Effect of vitamin B<sub>12</sub> deficiency and of restricted food intake on response of mice to Lansing strain of poliomyelitis virus. J. Exper. Med., 79:221-234 (February) 1944.
41. Ingalls, T. H., and Aycock, W. L.: Upper-respiratory infection as factor influencing susceptibility to poliomyelitis. New England J. Med., 245:197-203 (Aug. 9) 1951.
42. Draper, G.: Acute Poliomyelitis. Philadelphia, 1917, The Blakiston Co.
43. Aycock, W. L.: Subclinical endocrinopathy as factor in autareologic susceptibility to poliomyelitis. Endocrinology, 27:49-57 (July) 1940.
44. Aycock, W. L.: Frequency of poliomyelitis in pregnancy. New England J. Med., 225:405, 1941.
45. Aycock, W. L.: Autareology of poliomyelitis; a study



of recurrence of disease in same family. West Virginia M. J., 30:481-489 (November) 1934.

46. Aycock, W. L.: Tonsillectomy and poliomyelitis, epidemiologic considerations. *Medicine* 21:65-94 (February) 1942.

47. Top, F. H.: Occurrence of poliomyelitis in relation to tonsillectomies at various intervals. *J.A.M.A.*, 150:534-538 (Oct. 11) 1952.

48a. McCloskey, B. P.: Relation of prophylactic inoculations to onset of poliomyelitis. *Lancet*, 1:659-663 (April 8) 1950.

48b. Geffen, D. H.: Incidence of paralysis occurring in London children within 4 weeks after immunization. *M. Officer*, 83:137-140 (April 8) 1950.

48c. Anderson, G. W., and Skaar, A. E.: Poliomyelitis occurring after antigen injections. *Pediatrics*, 7:741-759 (June) 1951.

49. Armstrong, C.: Seasonal distribution of poliomyelitis. *Am. J. Pub. Health*, 40:1296-1304 (October) 1950.

50. Armstrong, C.: Atmospheric conditions and the spread of poliomyelitis. *Am. J. Pub. Health*, 41:1231-1237 (October) 1951.

## THE COXSACKIE GROUP OF VIRUSES

ALBERT P. MCKEE, M.D.,

JACK M. LAYTON, M.D.,

W. S. JETER, Ph.D.,

AND

J. R. PORTER, Ph.D.

IOWA CITY

A MEMBER OF THE Coxsackie group of viruses was first isolated during a small outbreak of poliomyelitis in Coxsackie, New York in 1947 by Dall-dorf and Sickles.<sup>1</sup> Since that time information has accumulated to indicate that the Coxsackie viruses are worldwide in distribution and are among the most common infectious agents of man. It is of interest to note that various strains of Coxsackie virus were isolated and studied extensively before their relationship to any disease was known.

The clinical features of infection caused by these viruses are still meager or lacking. They have been isolated from diverse diseases which have been diagnosed as nonparalytic poliomyelitis, aseptic meningitis, epidemic myalgia or pleurodynia (Bornholm disease), herpangina, summer gripe and simple fever of unknown origin.

### GENERAL PROPERTIES

The general properties of the Coxsackie group of viruses have been under investigation since their first isolation, and accumulating evidence indicates that considerable heterogeneity exists among individual members of the group. Morphologically, the viruses of this group appear to be spherical and quite small. Estimation of size by ultrafiltration, ultracentrifugation and electron microscopy reveals that strains vary in diameter from 7-10  $m\mu$  to 33-35  $m\mu$ .<sup>2, 3</sup>

The host range for the Coxsackie viruses is quite narrow. It appears to be limited to man and certain rodents. The original strain of the virus was isolated and maintained only in very young (under 3 days of age) suckling mice and hamsters. In suckling mice the virus produces a systemic disease involving several organs, the skeletal mus-

cle being most generally affected. More recently, it has been shown that the lack of susceptibility of mature mice and hamsters is not a distinguishing characteristic for all types of Coxsackie viruses. Certain strains have been passed in adult mice with the production of pancreatic disease,<sup>4, 5</sup> and mice can be infected lethally if cortisone is administered prior to the inoculation of virus.<sup>6, 7</sup> Following oral administration of virus, an infectious state may develop in chimpanzees and cynomolgus monkeys, but not in rhesus or cercopithecus monkeys.<sup>8</sup> The infectious state is characterized by a febrile response in 4 to 7 days, but no muscular or central nervous system lesions appear. The animals develop neutralizing and complement-fixing antibodies and become pharyngeal and intestinal carriers. Suckling guinea pigs do not appear to be susceptible to the virus.

Embryonated eggs incubated from 6 to 18 days can be infected by yolk sac inoculation with group A Coxsackie virus.<sup>9</sup> Lesions resemble those seen in suckling mice, and consist essentially of widespread acute necrosis of striated muscle. The virus has also been cultivated successfully in tissue cultures prepared from human and mouse embryos.<sup>10, 11</sup>

Other than the fact that the known strains of Coxsackie virus exhibit a high degree of parasitism, nothing is known about the metabolism of this group of viruses.

The Coxsackie viruses are relatively stable to adverse physical and chemical environments. Suspensions of certain strains are inactivated in 30 minutes between 53° and 55°C.<sup>12</sup> The virus may be preserved in the frozen state (-20° or -70°C) for several years without loss in titer. Like poliomyelitis virus, the Coxsackie group is not greatly influenced by changes in pH; the virus withstands pH 2.3 to 9.4 for one day and 4.0 to 8.0 for seven days.<sup>12</sup> The activity of the virus is not lost when specimens of infected tissue are stored in 50 per cent glycerol or horse serum at room temperature for as long as 70 days and in a refrigerator for over a year.<sup>8</sup> The Coxsackie viruses are not inhibited or inactivated by penicillin, streptomycin, chloramphenicol, terramycin or viscosin. Antiseptics, such as ethanol (70%), Lysol (5%), Roccal (1%) and ether, do not inactivate the virus; on the other hand, formaldehyde (1.3%) and hydrochloric acid (0.1N) are effective.<sup>10, 11</sup>

### LABORATORY DIAGNOSIS

Isolations of these viruses have been made mainly from human feces and pharyngeal washings, sewage and flies.<sup>13</sup> Melnick and Penner<sup>14</sup> have demonstrated that the viruses can be detected for 12 days in the excreta of flies fed the virus experimentally, while Fischer and Syverton<sup>15</sup> demonstrated that the American cockroach, *Periplaneta americana*, will excrete the virus for as long as 15 days following a single meal containing these viruses.

From the Departments of Bacteriology and Pathology, College of Medicine, State University of Iowa, Iowa City.

The specimens required for laboratory diagnosis are: fecal specimens and nose and throat washings taken early in the disease, preferably within the first week after onset of symptoms; and blood serum from the acute stage of the disease obtained within 3 to 4 days and from the convalescent stage obtained one week to ten days after the first specimen. Fecal specimens are considered more satisfactory than pharyngeal washings because of the more prolonged presence of the virus.<sup>16</sup> Since the virus is resistant to antibiotics,<sup>17</sup> it is satisfactory to treat such specimens with penicillin and streptomycin to reduce bacterial contamination. Specimens should be frozen, packed in dry ice and sent to the laboratory as early as possible. On receipt of all specimens at the laboratory, attempts are made to (1) isolate the virus, (2) identify it by serologic means and (3) demonstrate that the isolated virus is involved in the current infection by a concomitant rise in antibody titer from the acute to the convalescent phase of the disease.

Fecal specimens are extracted with ether or acetone-ether mixtures, and antibiotics are added if necessary to reduce bacterial contamination. This treated material may be inoculated either intraperitoneally, intracerebrally or subcutaneously into suckling mice 2 to 3 days old.<sup>13</sup> Sulkin and others<sup>18</sup> have emphasized the necessity for inoculation of an adequate number of mice from at least two different litters. In infected animals, signs of the disease usually appear within 2 to 10 days after inoculation. These are usually weakness and paralysis of the extremities and neck. Marked ataxia may be the only sign in very young animals prior to death, which usually occurs within 24 hours following onset of the disease.<sup>13</sup> If there is no evidence of the presence of virus following two blind passages from the original group of mice, the specimen is considered negative.<sup>16</sup> to confirm the significance of the isolated virus or

Two serologic procedures are generally used to demonstrate antibody production to the Coxsackie group if it is impossible to make such an isolation. These are the complement fixation test and the neutralization test. The former is more practical because of time considerations and expense.

Several types of preparations have been used as antigens for complement fixation tests. Muscle tissue is superior to brain tissue in preparing an effective antigen, probably because the latter possesses a low viral content.<sup>19</sup> It has been demonstrated with paired acute and convalescent sera that complement-fixing antibody shows an increase correlated to the course of infection, in the manner of a specific antibody response.

For neutralization tests, suspensions containing chiefly muscle and bone can be prepared from mice infected with a Coxsackie virus during the first 2 days of life and sacrificed on the first day of illness. Such suspensions cause fatal disease in susceptible infant mice. Each type of virus is neu-

tralized by immune serum against strains of homologous antigenic types, but not against heterologous types.<sup>13</sup>

Because mice acquire natural resistance to these viruses early in life it is not possible to immunize newborn mice and later test for immunity by challenge, but cross protection tests can be carried out by direct challenge of mice within the first 2 days of life, born of mothers previously immunized.<sup>13</sup>

#### IMMUNOLOGIC STUDIES

The three methods of studying the antigenicity of this group of viruses and neutralization in chimpanzees agree quite closely. They show at least 15 different antigenic types.<sup>13</sup> There is good evidence that more types will be found.

Differences in antigenic types can be correlated to some extent with other characteristics. Severe lesions of the central nervous system, with variable injury of muscle tissue, can be induced by the Connecticut -5 strain. The Texas-1 type, however, causes severe muscle and heart damage but rarely does it induce central nervous system injury. Although the antigenic strains cannot be sharply classified with the pathologic changes induced, a gradient among them does seem to exist.<sup>20</sup>

Coxsackie viruses appear to be antigenically distinct from other viruses. Since the Coxsackie group has many other properties in common with the virus of poliomyelitis, it is fortunate they can be distinguished antigenically.<sup>21</sup>

Much is yet to be learned about immunity to this group of viruses in man. From accidental human laboratory infections it is known that antibodies make their appearance early, usually within three days after onset. If the person has been infected previously with another strain, the complement-fixing antibody titer will rise to some extent against heterologous strains.<sup>22</sup> Cross neutralization tests would lead one to believe that immunity is quite type specific. The duration of immunity among human beings is unknown. In the chimpanzee it is known to last at least two years and to be type specific.<sup>19</sup>

The incidence of antibodies against multiple types of Coxsackie virus increases with age. The incidence of antibodies against the virus is lower among children than among adults. In adults it is not uncommon to find antibodies against multiple types, suggesting increased numbers of infections with increase in age. The relatively high number of human beings showing antibodies against the virus suggests the infection to be a fairly common one.<sup>23</sup> Natural passive immunity is conferred from mother to child by way of the milk, as measured by neutralizing and complement-fixing antibodies.<sup>24</sup> Subclinical infections can be produced in the chimpanzee by feeding the virus. Silent infections probably also occur in humans since normal individuals, unable to recall symptoms referable to this virus, do have antibodies. Artificial active im-



munization in man has not been sufficiently studied to warrant conclusions. There is no evidence to suggest that individuals immune to poliomyelitis are immunized against infections caused by the Coxsackie viruses or vice versa. Under proper conditions, gamma globulin possesses protective powers against both viruses.<sup>11</sup>

#### PATHOLOGIC PICTURE

Because no human deaths attributable to any agents of this group have been reported, information concerning the pathologic picture of the infection in man is lacking. On the other hand, considerable information on this point is available from studies with experimental infections, particularly as found in infant mice.

In susceptible animals, the variability of the pathologic picture has been recognized by Dalldorf in a classification which divides the Coxsackie viruses into two groups.<sup>25</sup> Group A includes strains which cause predominantly generalized degeneration and necrosis of striated muscle; group B includes strains which cause focal degeneration and necrosis of striated muscle together with lesions of the central nervous system, adipose tissue and other viscera.

The structural lesions in striated muscle in each group are similar.<sup>20, 25</sup> The common and predominant degenerative change is dense hyaline and acidophilic necrosis of muscle fibers, resembling Zenker's degeneration. Interstitial edema of affected muscles with acute hydropic distention of the fibers, granular disintegration of the cytoplasm and rupture of the sarcolemma may also be observed at times. Repair processes follow quickly. They are indicated by the appearance of hyperplastic young mesenchymal elements, chiefly myoblasts, surrounding the afflicted muscle fibers. The intensity of the repair processes probably is influenced to some degree by the immaturity of the tissues of the host. Whether these muscle lesions are primary or follow damage to the motor end plates is not known.

In mice infected with group A viruses, opaque, whitish streaks in skeletal muscle may be seen macroscopically. Muscles of the extremities, diaphragm, thoracic and abdominal walls, and those of the throat, jaws, and scalp are commonly involved, often in similar degree. In mice infected with group B viruses, these muscle lesions differ in being focal rather than generalized. Involvement of muscles of the trunk wall is uncommon. Curiously, the intrinsic muscles of the tongue of the suckling mouse are spared in each group.

Central nervous system lesions develop as an acute encephalomyelitis, most severe in frontal lobes of cerebral hemispheres, which progresses to large areas of localized necrosis with liquefaction and sometimes porencephaly. These lesions are often bilateral and symmetrical. They apparently are not produced by vascular occlusion. Thromboses and hemorrhages are absent.

Necrotizing steatitis may occur in maturing fetal fat lobules, such as the interscapular, cervical and cephalic pads. It rarely is found in mesenteric fat. The necrosis is confined chiefly to a peripheral band surrounding each lobule. There may be a granulomatous reaction to the necrotic adipose tissue. In animals which survive the acute infection, regeneration of fat cells and dystrophic calcification may be observed.

Hepatitis, pancreatitis and myocarditis have been studied in connection with experimental infections. The liver may show varying degrees of acute parenchymatous degeneration and necrosis. The pancreatic lesions represent necrosis of acinar tissue. The myocardial lesions are patchy areas of focal necrosis of cardiac muscle, the epicardium and endocardium not being involved to a significant degree.

#### BIBLIOGRAPHY

1. Dalldorf, G., and Sickles, G. M.: Unidentified filterable agent isolated from the feces of children with paralysis. *Science*, **108**:61-62 (July 16) 1948.
2. Quigley, J. J.: Ultrafiltration and ultracentrifugation studies of Coxsackie virus. *Proc. Soc. Exper. Biol. & Med.*, **72**:434-435, 1949.
3. Melnick, J. L.; Rhian, M.; Warren, J., and Breese, S. S. Jr.: The size of Coxsackie viruses and Lansing poliomyelitis virus determined by sedimentation and ultrafiltration. *J. Immunol.*, **67**:151-162, 1951.
4. Pappenheimer, A. M.; Kunz, L. J., and Richardson, S.: Passage of Coxsackie virus (Connecticut -5 strain) in adult mice with production of pancreatic disease. *J. Exper. Med.*, **94**:45-64, 1951.
5. Dalldorf, G., and Gifford, R.: Adaptation of group B Coxsackie virus to adult mouse pancreas. *J. Exper. Med.*, **96**:491-497, 1952.
6. Kilbourne, E. D., and Horsfall, F. L. Jr.: Lethal infection with Coxsackie virus of adult mice given cortisone. *Proc. Soc. Exper. Biol. & Med.*, **77**:135-138, 1951.
7. Sulkin, S. E.; Wallis, H. C., and Donaldson, P.: Differentiation of Coxsackie viruses by altering susceptibility of mice with cortisone. *J. Infectious Diseases*, **91**:290-296, 1952.
8. Melnick, J. L., and Ledinko, N.: Infection of cynomolgus monkeys with the Ohio type of Coxsackie virus (C virus). *J. Immunol.*, **64**:101-110 (February) 1950.
9. Peers, J. H.; Ransom, S. E., and Huebner, R. J.: The pathologic changes produced in chick embryos by yolk sac inoculation of group A Coxsackie virus. *J. Exper. Med.*, **96**:17-25, 1952.
10. Melnick, J. L.: Studies on the Coxsackie viruses: properties, immunological agents and distribution in nature. *Bull. New York Acad. Med.*, **36**:342-356 (May) 1950.
11. Melnick, J. L.: Symposium on viral and rickettsial diseases; poliomyelitis, encephalomyocarditis and Coxsackie groups of viruses. *Bact. Revs.*, **14**:233-244 (September) 1950.
12. Robinson, L. K.: Effect of heat and of pH on strains of Coxsackie virus. *Proc. Soc. Exper. Biol. & Med.*, **75**:580-582 (November) 1950.
13. Melnick, J. L., and Curner, E. C.: The Coxsackie group, Ch. 14. In Rivers, T. M.: *Viral and Rickettsial Diseases of Man*, 2nd Ed., 1952.
14. Melnick, J. L., and Penner, L. R.: The survival of poliomyelitis and Coxsackie viruses following their ingestion by flies. *J. Exper. Med.*, **96**:255-271, 1952.
15. Fischer, R. G., and Syvertson, J. T.: Cockroach as an experimental vector of Coxsackie virus. *Am. J. Trop. Med.*, **31**:238-242 (March) 1951.
16. Lazarus, A. S.; Johnston, E. A., and Galbraith, J. E.: An outbreak of epidemic pleurodynia, with special reference to laboratory diagnosis of Coxsackie virus infections. *Am. J. Pub. Health*, **42**:20-26, 1952.
17. Melnick, J. L.: Poliomyelitis and poliomyelitis-like viruses of man and animal. *Ann. Rev. Microbiol.*, **5**:309-332, 1951.
18. Sulkin, S. E.; Schwab, M., and Wallis, H. C.: Isolation of Coxsackie viruses. Litter differences among suckling mice. *Proc. Soc. Exper. Biol. & Med.*, **77**:354-356, 1951.
19. Casals, J., and Olitsky, P. K.: Complement-fixation tests with some of the viruses in the Coxsackie group. *Federation Proc.*, **9**:570-573 (September) 1950.
20. Godman, G.; Bunting, H., and Melnick, J. L.: The histopathology of Coxsackie virus infection in mice. I. Morphologic observations with four different viral types. *Am. J. Path.*, **28**:223-257, 1952.
21. Curner, E. C., and Melnick, J. L.: Poliomyelitis and Coxsackie viruses in paralytic poliomyelitis. *Pediatrics*, **8**:237-248, 1951.
22. Shaw, E. W.; Melnick, J. L., and Curner, E. C.: In-



fection of laboratory workers with Cocksackie viruses. *Ann. Int. Med.*, 33:32-40 (July) 1950.

23. Beeman, E. A.; Cole, R. M., and Huebner, R. J.: Studies in man of neutralizing antibodies against group A Cocksackie (Herpangina) viruses. Prevalence of antibodies in a community in 1949 and 1950. *Am. J. Hyg.*, 56:215-231, 1952.

24. Melnick, J. L., and Ledinko, M.: Social serology: Antibody levels in a normal young population during an epidemic of poliomyelitis. *Am. J. Hyg.*, 54:354-382, 1951.

25. Gifford, R., and Dalldorf, G.: Morbid anatomy of experimental Cocksackie virus infection. *Am. J. Path.*, 27:1047-1063, 1951.

## MANAGEMENT OF ACUTE SEVERE ILLNESS IN INFANCY AND CHILDHOOD

CHARLES D. MAY, M.D.

AND

ROBERT D. GAUCHAT, M.D.

IOWA CITY

A GLANCE AT CURVES depicting the decline in mortality from acute infections in infants and children may give the impression that acute severe illness is no longer a problem. But everyone caring for infants and children knows that however great the improvement in public health individuals are still regularly encountered in practice who are desperately ill.

A clumsy approach to the treatment of an acutely ill person is not only inexcusable but demoralizing and degrading. The acutely ill require prompt treatment but more important correct treatment. The state of the patient is too precarious to withstand abuse and the resilience of the body is so reduced that it cannot be depended upon to buffer the effects of erroneous measures.

The word "practical" and its connotations have been cause for much concern in the training of doctors. Some students acquire an attitude which leads them to try to appraise everything they might learn in terms of an obvious application in practice. At times practitioners and professors have considerable difficulty in communicating their points of view to one another. The very titles are unfortunate contrasting practicing with professing! At least in the management of the acutely ill a common ground should be recognized. For what is more *practical* than providing the proper treatment in a precise and orderly fashion under the pressure of an urgent situation? What greater display of calm confident practical ability can be made than to avoid rash harmful hectic measures during the excitement surrounding the acutely ill?

It should be particularly easy to see that the most practical knowledge in treating the acutely ill is an understanding of the basic disturbances in physiology. Experience shows that there is a tendency for some doctors to apply a stereotyped treatment for the acutely ill based on rules, rather than to select a treatment appropriate to the particular situation at hand. Unfortunately, a form of treatment helpful in one situation may be harmful in another. Too often, if a patient manages to re-

cover the treatment is given credit, but if he dies, the overwhelming nature of the disease is blamed.

The agents which may upset the equilibrium of the body are numerous but the ensuing physiologic states are fortunately of a few distinct types. A common sequel when an acute illness overwhelms a patient is a state termed "shock." The patient becomes pale, cyanotic, disoriented or unconscious; the extremities are cold though the rectal temperature may be greatly elevated; the pulse is rapid and feeble, the veins collapse and a low arterial pressure is found. These are the signs of a failure of the circulation. The desperate picture presented by such a patient has been vividly impressed on the mind of every doctor by dramatic personal experiences. It is generally accepted that the shock or failure of the circulation which follows hemorrhage or trauma ("surgical" shock) is caused by a diminished blood volume. The physiology of the state of shock complicating acute illness, particularly infection ("medical" shock), is less commonly appreciated. In the former type of shock, transfusion of blood may be expected to restore the circulation to normal. In medical shock, intravenous administration of blood or fluids cannot restore the circulation to normal. It may be harmful if given excessively. Efforts at treatment must be directed at the underlying cause.

It has been more than a decade since Ebert and Stead published an important paper distinguishing the physiologic state in medical shock from that found in surgical shock.<sup>1</sup> The valuable conclusions of this paper are still not widely appreciated. They pointed out that acutely ill persons presenting signs of failure of the circulation without previous loss of blood or body fluids should be carefully evaluated to determine what portions of the cardiovascular system have failed. The task of the cardiovascular apparatus is to circulate blood through the lungs and tissues. This is accomplished by the heart pumping blood through the elastic vessels by which it reaches the tissues and returns to refill the heart. The elastic quality of the vessels, aided by constriction under neuromuscular control, enables the blood pressure to be maintained under variable conditions. In acute illness the demand for increased circulation may cause the neuromuscular control to permit the vessels to dilate to such an extent that the volume of blood in the circulation cannot maintain normal blood pressure. This alone may not lead to failure of the circulation; the skin may be flushed and warm, the pulse full and bounding, the heart sound loud and vigorous, the veins dilated and quickly refilled if emptied even though the blood pressure has fallen considerably. Ebert and Stead found that when medical shock occurs in the course of acute infections, the failure of the circulation is due to damage inflicted on the entire circulatory system, so that the heart muscle suffers as well as the peripheral vessels. The arterioles

From the Department of Pediatrics, College of Medicine, State University of Iowa.



may constrict in an effort to compensate for a decreased output by the damaged heart. The tone of the venous vessels may decrease and by dilatation prevent elevation of venous pressure. The results are the clinical signs of circulatory failure: pallor, cyanosis, cold skin, rapid, feeble pulse, weak heart sounds with gallop or irregular rhythm, low arterial pressure, collapsed veins, accentuation of fever as measured per rectum, disorientation or coma.

The most important points to note are, first, that in this form of circulatory failure the heart is damaged so the cardiac output is not adequate to keep arterial pressure normal; second, the blood volume is not reduced and, third, the venous return is adequate. Furthermore, although there is circulatory failure, the signs are not those of congestive failure. The injection of blood or fluid into the circulation would not be expected to improve the circulation. It might actually make matters worse. This situation is in marked contrast to surgical shock following diminished blood volume from loss of blood because of hemorrhage or trauma. The practical necessity of keeping this concept of the physiology of medical shock in mind is obvious. If the disease leading to shock has also caused loss of fluid through vomiting or diarrhea, an additional factor contributing to the circulatory failure would be diminished blood volume. Then restoration of the blood volume by fluids or blood would be justified and might be beneficial.

While emphasis is being placed on the treatment of circulatory failure in this discussion, the physician must not fail to consider the urgent need to make certain an acutely ill patient in shock has an unobstructed airway. This is of the utmost importance in the unconscious patient and must receive immediate attention even prior to the state of the circulation. Careful suctioning and alert maintenance of an unobstructed airway are required throughout the period of shock.

The doctor faced with an acutely ill patient in shock must make a quick appraisal of the physiologic nature of the failure in the circulation. First, enough history must be obtained to determine whether fluid or blood has been lost by starvation, vomiting, or diarrhea and, if possible, to detect a clue as to the cause of the illness; whether infection, poisoning, etc. In examination of the patient, particular attention will be given to the blood pressure, quality of the heart sounds, the signs of sluggish peripheral circulation and the state of hydration. If the history and physical findings indicate a general failure of the circulation, the injection of blood or fluids should be avoided. Certainly it should be given only in minimal amounts. Ebert and Stead found such treatment was not helpful. Our experience has confirmed this. If the history and physical findings indicate loss of body fluids, blood or 5 per cent glucose in water and physiologic saline, equal

parts, may be injected intravenously, but only in small amounts sufficient to restore the blood volume to normal. Care must be taken to avoid taxing the circulatory apparatus by an expansion of the blood volume beyond normal. The different fluid requirements and the smaller blood volume of infants and children should not be forgotten by those more occupied with adults. Much harm will follow attempts to push a weakened heart with an increased load on the venous side.

The patient should be kept horizontal. Simple covering of the body without energetic warming measures is all that is indicated to permit the circulation every opportunity to recover. Moving or manipulation of the patient for diagnostic procedures such as roentgenograms, taps or blood samples should be kept to the minimum of clearly indicated, potentially useful procedures.

It is unfortunate, but clearly established, that the power of contraction of a heart enfeebled by acute intoxicating disease cannot be strengthened by digitalis. Thus, this drug should not be used in medical shock. The anoxia which follows circulatory failure cannot be relieved by oxygen therapy until circulation through the lungs is restored to normal. The high fever measured per rectum cannot be relieved by sponging the cold skin; the peripheral blood flow is so reduced that heat loss is impaired. Cold water enemas are more effective. The fever should not be attacked by drugs such as salicylates, which may add to the intoxication.

All efforts should be directed at discovery and treatment of the cause of the medical shock. The small amounts of fluid permissible should be used as a vehicle for intravenous injection of an appropriate antibiotic agent if infection seems the likely cause.

Because hemorrhage and other lesions are often found in the adrenals at necropsy in patients dying in medical shock and because of the protective effect of the adrenals against shock, it was natural that the secretions of this gland should be tried in therapy. Actually there is no correlation between the amount of pathology found in the adrenals and the degree of medical shock. Severe circulatory failure may precede death, and only minimal changes may be found in the adrenals at necropsy.

Two substances are secreted by the adrenal medulla: epinephrine and norepinephrine. Epinephrine has no place in the treatment of medical shock, for one of its actions is to cause peripheral arterioles to dilate. It cannot improve the action of a damaged heart. Norepinephrine causes constriction of peripheral arterioles. Its usefulness is being studied currently. It would be helpful to be able to distinguish the state of arteriolar constriction more accurately in medical shock. Whereas constriction may usually be characteristic in an initial phase, dilatation may at times be present, or may develop as the state of shock continues. It is not possible to condemn the use of pressor sub-

stances in a dogmatic fashion. Caution and further critical evaluation should govern their use.

Extracts of the adrenal cortex and, more recently, cortisone, have been employed in treatment of medical shock. Presumably the rationale is that the adrenal cortex is not able to produce enough of these substances under the extreme conditions existing in overwhelming infections or intoxications. It may be re-emphasized that the pathologic lesions in the cortex may be purely coincidental, not a regular finding in shock. Available evidence suggests that the output of hormones produced by the adrenal cortex in shock is increased, perhaps to an extent which will provide any beneficial effects they may possess. There is some evidence that excessive amounts provided by artificial supplementary therapy could be harmful. Actually, reports of the use of adrenal extracts and the synthetic cortical hormones cannot be interpreted as demonstrating a significant or unequivocal improvement in the course of patients suffering from medical shock. It is difficult to disentangle the natural recovery promoted by the control of the infection from any positive effect of adrenal hormone therapy administered simultaneously. Many patients so treated have succumbed without any significant improvement in their course. Again, caution and critical evaluation are indicated in the use of adrenal cortical hormones rather than a dogmatic opinion derived from an inadequate personal experience or from the imperfect state of the literature.

Stimulants such as caffeine have not been helpful. Perhaps the usefulness of all forms of drug therapy, other than that used to combat infection, is limited by a general disturbance of cellular metabolism from the toxemia of the infection.

This discussion is not intended to advocate a nihilistic attitude in the treatment of acute circulatory failure but rather to emphasize the importance of an orderly, thoughtful plan which will avoid harmful action. The availability of more successful tools to combat infections, so commonly the cause of shock, makes successful management during this precarious period exceedingly important. If the stormy onset can be weathered, the control of the infection will usually be followed by recovery of the circulation.

This paper is not meant to be a complete and well documented review of the physiology of medical shock and its treatment. Some controversial points are given a more superficial handling than is desirable. This is simply an essay warning against excessive administration of drugs, fluids and blood in medical shock—a point of view that has proven useful in the practical care of acutely ill patients.

An important purpose of the physician is to protect the patient from an avalanche of well meaning but irrational therapeutic agents and manipulations. A considered approach will be adequate

to deal with the psychology of those whose concern makes them eager "to do something."

#### BIBLIOGRAPHY

1. Ebert, R. V., and Stead, E. A., Jr.: Circulatory failure in acute infections. *J. Clin. Investigation*, 20:671-679 (November) 1941.

## THE FUNCTIONS OF A CLINICAL BIOCHEMISTRY LABORATORY

JOSEPH I. ROUTH

AND

J. P. HUMMEL

AS A RESULT of the increased understanding of biochemical processes as they relate to pathologic states, the biochemistry laboratory is assuming a more important role in clinical practice. The scope of operation in a clinical biochemistry laboratory has broadened in the past few years. Whereas the aims and purposes of such a laboratory remain unchanged, increasing emphasis is placed on methodology and research.

The clinical biochemist adopts the attitude that no method is perfect and that all methods can profit by improvements in technic. Hence a portion of the normal activities of the laboratory is devoted to a search for improvements of new and often radically different technics and apparatus.

Ideally a routine clinical test should be simple, rapid and accurate, requiring a minimum of specimen, equipment and reagents. In practice, the selection of the procedure to be chosen often depends to a great extent upon the needs of the clinician. For example, the determination of blood urea nitrogen was changed from the urease method to a new colorimetric method primarily because it is frequently an emergency test in which rapidity is essential.

In the determination of blood electrolytes, a transition to micro methods appears important, since the volume of the specimen is often limiting. To determine oxygen and carbon dioxide content of blood and plasma, a new microgasometric procedure is being used. Micro methods for determination of chlorides, sodium and potassium are being investigated, with the ultimate aim of a complete electrolyte study from a single finger tip blood specimen.

The specimens examined by a clinical biochemistry laboratory are many and varied. Blood, plasma, serum, spinal fluid, ascitic fluid, bile, gastric juice, cystic fluid, urine, tissue, feces, bladder stones, kidney stones and abnormal deposits or concretions are among the samples submitted for analysis. The range of normal values obtained from the most common routine determinations carried out in this laboratory are shown in table 1. In addition to these determinations, many spe-

From the Clinical Biochemistry Laboratory, University Hospital, Iowa City.



cial tests are performed to aid in diagnosis and treatment. The concentration of certain constituents in special body fluids, bladder and kidney stones, tissue and stool specimens is often determined. The concentration of melanin, cystine and porphyrin are some of the special determinations carried out on urine.

The services of the clinical biochemistry laboratory are available to the staff of the University hospitals and to physicians in other locations who desire to submit specimens for analysis. An analyst is on call for emergency determinations needed at night, Saturday afternoon and Sunday.

In addition to the routine activities, the laboratory's staff is engaged in original research. A good share of this research involves cooperative projects with various clinical departments. For several years equipment and personnel have been available for carrying out electrophoretic analysis of the protein components of plasma, serum and other body fluids. Cooperative projects have resulted in considerable data being collected on the plasma and serum proteins of normal individuals and patients with nephrosis, nephritis, diabetes, poliomyelitis, liver disease, rheumatoid arthritis and many other diseases. The results obtained from these studies have been used in diagnosis and in evaluating treatment in several disease conditions. Another type of long range research project is that concerned with a study of the metabolism of salicylates in the body. The effect of buffering agents on the rate of absorption and salicylate levels in the blood has been studied. More recently, salicylate compounds containing radioactive carbon ( $C^{14}$ ) have been synthesized and used to study the distribution in animal tissues, the permeability of the synovial membrane and the fate of salicylates in the animal body. A study of the effect of analgesic and antipyretic drugs on the formation of methemoglobin and sulfhemoglobin is also in progress.

In an attempt to develop new tools by which to study the metabolism of steroid hormones in psychiatric patients, a radiochemical technic has been developed. The ketosteroid hormones isolated from urine are coupled with a radioactive compound, acethydrazide-3-iodo<sup>131</sup>-pyridinium bromide, then separated by chromatography on filter paper strips. By measurement of the radiation from the paper strips the amount of different ketosteroids can be determined. The technic is currently being applied to fractions of urinary steroids from schizophrenic patients in an attempt to study adrenal cortical function in that disease.

A similar approach is being applied to the separation and detection of estrogenic substances by employing counter current separation of radioactive azo dye derivatives of urinary estrogens. The technic is aimed at the study of estrogen metabolism in prostatic carcinoma patients during stilbestrol therapy.

Synthesis of radioactive compounds which may localize in certain malignant tissues is being actively investigated as a possible means of tumor therapy.

The staff of the clinical biochemistry laboratory is often asked to consult with members of the

TABLE I  
NORMAL VALUES FROM ROUTINE DETERMINATIONS IN  
THE CLINICAL BIOCHEMISTRY LABORATORY

Constituent	Sample	Normal Range
Albumin	Serum	3.8 to 5.2%
Amylase	Serum	50 to 150 units
Bilirubin,	Serum	1 minute—0 to 0.2 mg. %
Van den Bergh		30 min.—0.2 to 1.0 mg. %
Calcium	Serum	9 to 11 mg. % (4.5 to 5.5 mEq./L.)
Calcium	Urine	200 mg./24 hr.
Chloride	Serum	600 to 650 mg. % as NaCl
		102 to 111 mEq./L. as Cl <sup>-</sup>
	Spinal Fluid	700 to 750 mg. % as NaCl
		120 to 128 mEq./L. as Cl <sup>-</sup>
Cholesterol, Total	Plasma	150 to 205 mg. %
Cholesterol, Esters	Plasma	60 to 80% of total chol.
CO <sub>2</sub> capacity	Plasma	55 to 70 cc./100 cc. plasma
		25 to 32 mEq./L. as HCO <sub>3</sub> <sup>-</sup>
Creatinine	Blood	1.0 to 2.0 mg. %
Fibrinogen	Plasma	0.2 to 0.4%
Globulin	Serum	1.8 to 3.2%
Glucose	Blood	80 to 100 mg. %
Glucose	Spinal Fluid	60 to 70 mg. %
Phosphatase, Acid	Serum	0 to 0.5 units (Bodansky)
Phosphatase, Alkaline	Serum	1.5 to 4.0 units (Bodansky)
Phosphorus	Serum	3.0 to 5.0 mg. % (adults)
		4 to 7 mg. % (children)
Phosphorus	Urine	0.5 to 1.0 gm./24 hr.
Potassium	Serum	16 to 22 mg. %
		4.1 to 5.6 mEq./L.
Potassium	Urine	1 to 3 gm./24 hr.
Protein, Total	Plasma	6 to 8%
Protein, Total	Spinal Fluid	15 to 45 mg. %
Sodium	Serum	300 to 340 mg. %
		130 to 148 mEq./L.
Sodium	Urine	3 to 5 gm./24 hr.
Urea Nitrogen	Blood	8 to 18 mg. %
Uric Acid	Blood	2 to 4 mg. %
Urobilinogen	Urine	0.5 to 2.5 mg./24 hr.
Vitamin C	Plasma	0.7 to 2.5 mg. %
LIVER FUNCTION TESTS		
Bilirubin,	Serum	1 min.—0 to 0.2 mg. %
Van den Bergh		30 min.—0.2 to 1.0 mg. %
Bromsulfalein (BSP)	Plasma	0 to 10% retention in 30 min.
Cephalin	Serum	24 hr.—0 to 1 +
flocculation		48 hr.—0 to 1 +
Thymol turbidity	Serum	1 to 4 units
Urobilinogen	Urine	0.5 to 2.5 mg./24 hr.
Urobilinogen	Stool	50 to 250 mg./100 gm.
Zinc sulfate	Serum	2 to 8 units
flocculation		
STOOL ANALYSIS		
Amylase	Stool	4 + activity
Fat, Total	Stool	25% of total solids
Protease	Stool	4 + activity
Total Solids	Stool	25% of wet weight
Urobilinogen	Stool	50 to 250 mg./100 gm.

clinical staff on research problems. Several such problems have been initiated or assisted by members of the laboratory. The combined facilities of the research and routine analytical personnel are often directed at a study of patients with special conditions of major interest to the clinical staff.

Another major function of clinical biochemistry is to train qualified graduate students for positions in other laboratories throughout the country. A course of studies, research facilities and direction are available for students interested in obtaining an M.S. or Ph.D. degree in clinical biochemistry.



## THERAPEUTIC CONTACT DERMATITIS

RUBEN NOMLAND, M.D.  
IOWA CITY

THERAPEUTIC CONTACT dermatitis has always been a minor dermatologic problem. Untoward sensitivity reactions to mercury, arsenic, tars, phenols, resorcinol and other substances are well known but rare. With the introduction of many new external medications in the past decade, therapeutic contact dermatitis has become a major problem in the practice of dermatology. A considerable percentage of dermatologic patients have this complication.

Four widely used groups of drugs have a relatively high incidence of contact dermatitis. The commonest sensitizers belong to the group of drugs which relieve itching because they have a local anesthetic action when applied to the skin. Among these are benzocaine, surfacaine, nupercaine and others. The antihistamines used locally are a good second among cutaneous sensitizers. Thephorin, pyrabenzamine, benadryl, histadyl and others show a rising tendency to produce contact dermatitis. The antibiotics, used locally, have a high index of sensitivity. Penicillin, streptomycin and others may cause dermatitis. The sulfa drugs, particularly sulfathiazole, caused many cases of contact dermatitis, but fortunately their sensitizing properties became so well known that they are no longer used externally to any degree.

The general pattern of the development of therapeutic contact dermatitis is almost always the same. The medication is used on the local lesion for a variable period of time, from days to months. In the beginning there may be great relief of the symptoms of the original disease. The first evidence of sensitization is usually development of a dermatitis where none was present before, as in anogenital pruritus, or the aggravation of the original dermatitis. Within a matter of days after this local aggravation occurs a dermatitis appears in a rather consistent fashion. The hands and forearms are usually involved early; then the face, especially the eyelids and ears and down to the V of the neck; then the legs and feet. In these areas there is usually an edematous, oozing, itching dermatitis. If the medication is stopped the widespread dermatitis is the first to disappear, with the most recently involved areas being the first to clear, and the originally treated areas being the last to improve. The picture can probably be best developed by citing typical illustrative cases.

Because the "caine" group of drugs, benzocaine, surfacaine and nupercaine, are used chiefly in the symptomatic treatment of anogenital itching, the following history is illustrative of a typical case of this type of therapeutic contact dermatitis.

From the Department of Dermatology and Syphilology, the State University of Iowa, Iowa City.

Case 1. W. S., a man of 61, had anal itching for a year. He had used many local medications in the treatment of the itching. As is usual in this type of person, he had gone from physician to physician and had also used treatment from other sources. About three weeks before he was first seen here his itching became worse. A dermatitis began in his anogenital region and spread to the buttocks. (fig. 1.) Soon thereafter it spread to his hands and forearms and, later, to the face, including the ears and eyelids. Because of the severity of the dermatitis and the intense itching he was hospitalized. He was given aspirin, nembutal and codeine to help control the itching. He was also given Sitz baths in Aveeno (an oatmeal type of bath) twice daily. In the intervals he used a cream similar to calamine liniment on the other areas of dermatitis. It took 15 days before he could be discharged with a simple soothing ointment of 2 per cent ichthyol in zinc oxide ointment. Routine patch tests with 20 medications commonly used on the skin revealed a strong positive test to a proprietary ointment containing 2 per cent benzocaine and a moderate positive to pyrabenzamine, oxyquinilol and another proprietary. He did not react to the other local anesthetic ointments. There is not much doubt that the contact sensitivity he developed to benzocaine was the cause of his widespread dermatitis.

A much simpler type of contact reaction to one of the -caine group is shown in the following case.

Case 2. P. M., a 50-year-old man, had a chronic infection of his beard off and on for several years. He had tried many remedies. There was a history of several previous attacks of therapeutic contact dermatitis, one of them to penicillin. About two weeks before he was first seen he was given a preparation containing surfacaine and histadyl.



Fig. 1 (Case 1). Severe dermatitis of anogenital region and back caused by a benzocaine ointment used in treatment of anal pruritus.

After using it a short time he developed a severe oozing dermatitis of the bearded region of his chin and neck. (fig. 2) His patch tests showed a strong positive reaction to surfacaine (fig. 3), mild



positives to a proprietary containing benzocaine, to procaine and to histadyl. He had no reaction to penicillin. This case illustrates the crossing over of sensitivities that often is seen in the -caine group of drugs. The contact dermatitis cleared in about a week under treatment with cold, one-half saturated boric acid wet dressings and a simple soothing local preparation.

The patch test has proven useful in determining the cause of contact dermatitis due to external medication. In all hospitalized cases of contact dermatitis, about 20 of the commoner known therapeutic sensitizers are applied. The method is to take a piece of gauze about 1.0 cm. square and apply some of the medication to it. The gauze is then placed on the skin and held in place by a square of adhesive tape about 3.0 cm. on a side or by a special type of elastic adhesive patch, the "elastopatch." After 24 hours the patch is removed. If there is any redness beneath the patch the reading is considered positive, but the severity may be such that there are small vesicles in the red area beneath the patch and the surrounding skin is red and edematous. The degree of sensitivity to the external medication and the extent and severity of the dermatitis is roughly proportional to the intensity of the reaction to the patch test. No therapeutic substance should elicit a positive reaction or be a primary irritant. In most instances the type of positive patch tests fits well with the clinical history of the development of the sensitivity dermatitis.

The antihistamines are being widely used externally in the treatment of many skin diseases in which there is pruritus. Dispensed in the form of ointments, creams and shake lotions, they are recommended in all types of skin eruptions, in contrast to the -caine group. Its chief use is in anogenital pruritus. The ones most widely used are benadryl, pyrabenzamine, histadyl and thephorin—all sensitizers of moderate degree. The sensitivity reactions are therefore somewhat different, as the original area sensitized is often of large extent. The pattern of development is similar. It consists of aggravation of the sites where the medication was first applied, followed by irritation of the face, especially the eyelids; ears and V of the neck; hands, forearms and, last, the lower legs. Another essential difference is that the antihistamines may be given internally for the itching, either orally or parenterally. When one is given to a patient sensitized externally to that medication, a sudden and often severe general eruption, with great aggravation of the local dermatitis, follows in a matter of days or hours after a parenteral injection.

**Case 3.** A case illustrative of this type of sensitivity was a 60-year-old man who developed an eruption on his forearms and treated it with external preparations of an unknown nature. The eruption spread from the original sites more widely on the arms, then appeared on the face, espe-

cially the ears, and later on his legs. He consulted another physician who prescribed a benadryl ointment. The dermatitis became worse. Finally he was given benadryl parenterally to control the itching. However, within a matter of hours his dermatitis became a great deal worse. He was hospitalized several days later because of the

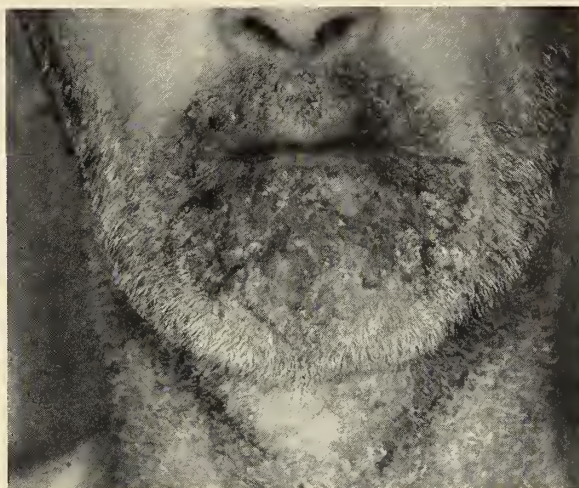


Fig. 2 (Case 2). Oozing dermatitis of chin produced by sensitivity to surfacaine.

severe, oozing dermatitis in the above areas. It required two weeks of hospital care before his dermatitis calmed sufficiently for him to be discharged. The external otitis was still active when he left. He had a positive patch test to a commercial benadryl cream and to the prescription he had used.

The combined sensitivity illustrated by the previous case is becoming of some concern because a person sensitized externally to a topical application will usually develop a severe flare-up of the dermatitis. Often a widespread and severe general eruption of various types ensues. We have seen several instances of this reaction to benadryl, one to pyrabenzamine and we expect to see others, particularly following the parenteral use of the sensitizing drug.

Similar reactions can occur with the antibiotics. An example follows:

**Case 4.** A man of about 55 with folliculitis of his scalp and face of about ten days' duration, was given penicillin. He returned in a week with a beginning contact dermatitis from the antibiotic. He recovered rapidly under cool wet dressings and had no difficulty until several months later when he received penicillin parenterally for a pneumonia. He developed a severe dermatitis on his face where he was sensitized, and also a mild general penicillin reaction.

Other antibiotics are also sensitizers, but since their use is generally restricted to a short time and to acute infections such as impetigo, contact dermatitis is not common. It is recommended that antibiotics not used internally be used on cutane-



ous infections to avoid the combined reaction. Neomycin and bacitracin are probably the best to use, as they are effective and will not be used internally. It is best not to use aureomycin, penicillin or terramycin externally because of the risks of producing a cutaneous as well as a combined sensitivity.

The sulfa drugs, particularly sulfathiazole, were

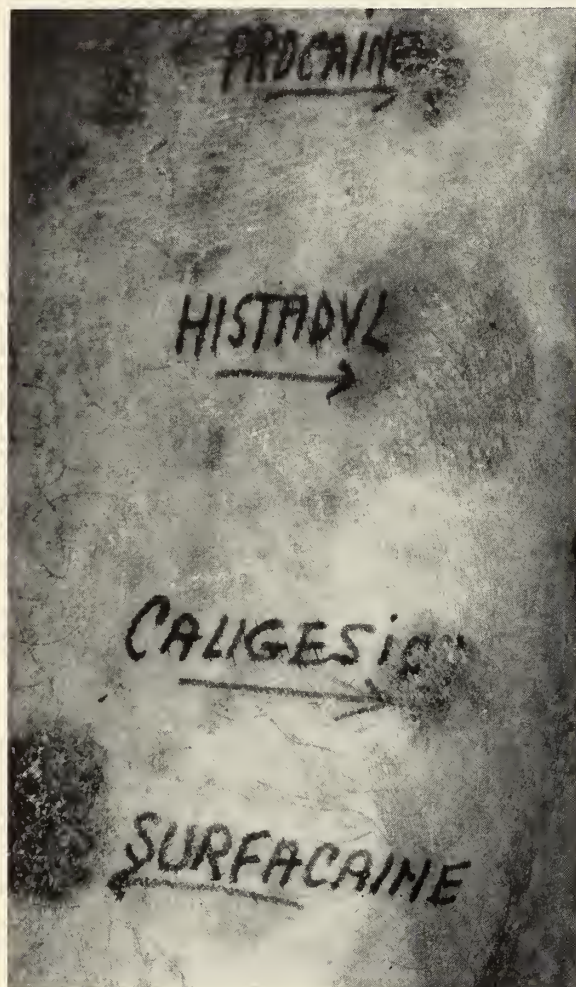


Fig. 3 (Case 2). Strongly positive patch test to surfacaine, mildly positive to histadyl, procaine and a proprietary containing benzocaine. These sensitizations may mean a crossing over from only one sensitizing drug, or multiple individual sensitivities.

the worst of all in producing therapeutic contact dermatitis. Their ability to produce local sensitivity reactions, generalized contact sensitivities of a severe type, and the combined sensitivity to internal and external applications was so great that physicians in general practice soon stopped their use. The patterns of contact dermatitis from the sulfa drugs is now being repeated in all its manifestations by the newer -caine drugs, the anti-histamines and the antibiotics.

What can the practitioner do about the problem of topical contact dermatitis? The most important

thing is that he should be aware of the possibility that his medications are often causes of dermatitis. The second, and most logical, is to use the time-tried medications described in all textbooks of dermatology and usually found in the *United States Pharmacopeia XIV* or the *National Formulary 9*. Finally, he should remember that the auxiliary treatment is often of greater importance than is the topical medication.

If the practitioner continues to use the potential sensitizers he should be familiar with the earliest signs of developing sensitivity. In many cases he should warn the patient of the possibilities of sensitivity reactions. The relatively safe local applications, which are probably as efficient as the sensitizers, are numerous. For localized itching, where the -caines are used so much, a simple ointment base with  $\frac{1}{2}$  per cent menthol or 1 to 2 per cent phenol, and possibly other ingredients, is usually effective in relieving the itching. Typical ointment bases to which these can be added are zinc oxide ointment, USP, calamine ointment, National Formulary, zinc oxide paste (Lassar's paste) NF, and soft zinc oxide paste USP. If one wishes to use one of the newer greaseless types of bases, either hydrophilic ointment USP or polyethylene glycol (carbawax) USP ointment should be suitable.

For widespread itching phenol 1 per cent is still the most efficient antipruritic medication. It can be added to a cream such as calamine liniment, National Formulary, or to shake lotions such as calamine, USP or neo-calamine lotion, NF. The use of heavier ointment bases is often the better treatment of many itchy dermatoses. Two per cent ichthammol NF in a simple USP or NF ointment base has long been a favorite of dermatologists.

Auxiliary treatment and management may be more important than the local medication and the avoiding of irritation and protection of the affected area may be most important. Soap, other defatting agents, rubbing and scratching must be avoided. In many circumstances the skin should be bandaged without the application of adhesive tape to the skin. Old worn cotton material is much better than gauze for this purpose, and the clothes, especially the underwear in anogenital itching of both men and women, should be of soft cotton rather than the nonabsorbent synthetic fibers. In some cases aspirin by mouth and moderate sedation with a barbiturate may be necessary, but the anti-histamines do not as a rule relieve itching unless by their side effect of sedation.

The treatment of therapeutic contact dermatitis is of the same type as above described except that in the acute phases, with edema and oozing, continuous cool wet dressings are often the best treatment. Whether one uses one-half saturated boric acid solution, Burrow's solution diluted 1:20 or any other wet dressing does not make much difference. If bathing is indicated or desirable, a cupful of



laundry starch may be added to the water or an oatmeal bath made with Aveeno may be used.

#### SUMMARY

Because of the increasing number of cases of therapeutic contact dermatitis caused by the -caines, antihistamines used locally, the antibiotics and the sulfa drugs, the physician must be aware of the sensitizing properties of these drugs. Several typical cases of sensitivity reactions are described, and the value of the patch test in diagnosis emphasized. It is emphasized that simpler, time-tested remedies may be the equal of the newer ones and that many such are available in the *United States Pharmacopeia* or the *National Formulary*. The physician is urged to recognize the early signs of topical sensitivity and to caution his patients about the potential dangers of some of these remedies. It is especially urged that medications which may be subsequently given internally not be used in topical treatment because of the potential dangers of combined sensitivity to the drug.

### THE TEACHING VALUE OF THE VETERANS HOSPITAL

ROBERT C. HARDIN, M.D.  
IOWA CITY

THE VETERANS ADMINISTRATION Hospital in Iowa City, which began operation in March, 1952, has provided means for supplementing the teaching facilities of the College of Medicine. It has made available more clinical material for the greater number of medical students. Its staff has participated in their instruction. In addition, students of certain ancillary medical services have received part of their training in the Veterans Hospital. This exchange represents the beginning of an experiment to evolve a scheme of mutual aid which will prove most useful to the two institutions and, more particularly, to the students involved.

The most obvious use of the Veterans Hospital, as far as the College of Medicine is concerned, is the employment of the clinical material for clerkships. During the year senior students have worked as clerks in internal medicine and surgery while some junior students have been assigned patients for study. Thus the number of patients available for teaching has been supplemented. It must be noted also that there is some difference between the case material in the Veterans Hospital and that in the University Hospitals. While this helps to diversify the student's experience, it also imposes some limitations. The chief difference between the patients in the two hospitals is in age and sex distribution. At the University Hospitals the average age of patients on the medi-

cal and surgical services has been steadily rising in the past few years. The majority of patients at Veterans Hospital are veterans of World War I, but there is a sizable proportion of the younger World War II veterans and a few Korean ex-service men. On the whole, there is a very noticeable difference in average age of the patients, with an attendant difference in disease. Offsetting this is the fact that the Veterans Hospital has virtually no women as patients and no patients under the age of 20. However, it must be noted that among those recently returned from Korea there have been examples of diseases uncommon or totally unknown in Iowa, particularly certain parasitic infestations. When these factors are all considered, it is evident that the student's experience is enriched by clerkship in the Veterans Hospital.

The institution of clinical clerkships at the Veterans Hospital necessitated establishment of mechanisms for instruction which, at this stage, must be done in small groups at the bedside. The best teaching is done by the physician who is thoroughly familiar with the patient by virtue of being directly responsible for his treatment. Therefore, it is to the student's advantage that ward rounds be conducted by the staff of the Veterans Hospital. This has been the practice. It has been possible because that staff includes experienced teachers. Their efforts have been augmented by regularly scheduled teaching rounds made by members of the faculty of the College of Medicine in the wards of the Veterans Hospital. The contact thus maintained between the two staffs has been mutually advantageous as well as valuable to the patient and the student.

Not only has the Veterans Hospital staff assumed a portion of the clinical ward teaching; it has also assisted in the instruction in other courses. Among these is physical diagnosis, a part of the curriculum in the sophomore year. This requires detailed bedside instruction in small groups. In addition, some of the Veterans Hospital staff have aided in the more didactic teaching by giving lectures and clinics to larger student groups.

Training facilities for students of ancillary medical services are also available at the Veterans Hospital. During the year physical therapy students have had part of their practical instruction in this hospital. This has been carried out with the cooperation of the physician in charge of the department and his technical staff, who also have assisted in some of the didactic teaching. Increase in facilities for training physiotherapists is important, since augmentation of the number of individuals with this type of training is badly needed.

Lastly, the Veterans Hospital has its own lectureship program. It brings to the community a number of outstanding physicians to speak on various topics. These lectures are attended by all physicians and all students who wish to avail

(Continued on page 161)

From the College of Medicine, State University of Iowa, Iowa City.

# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
MISS MARY L. McCORD, Managing Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII      APRIL, 1953      No. 4

## UNIVERSITY OF IOWA ISSUE

The April JOURNAL continues the annual custom of presenting articles prepared by members of the faculty of the College of Medicine of the State University of Iowa. This year the committee in charge of the issue has furnished a splendid variety of interesting subjects. In fact, it has been necessary to withhold a splendid symposium on the subject of congenital heart disease, which will appear in the June number.

Our readers will again find that we may all be proud of the caliber of medical teaching and research as carried out in our medical school.

We are most happy to welcome the appointment of Dr. Norman Bartram Nelson as dean of the College of Medicine. Born in 1913, the new dean is a native of Bridgeport, Conn. He received a bachelor of arts degree from the University of California in 1934 and a doctor of medicine degree from the University of Southern California in 1939.

Following an internship at the Los Angeles County Hospital during 1939-1940, Dean Nelson received a master of public health degree from Harvard University in 1941. For the next year he was an assistant professor in the Harvard School of Public Health, and in 1942 he received the degree of doctor of public health from Harvard. He joined the Los Angeles health department as chief epidemiologist in 1942, and in 1943 was named chief of the medical section, a position he held until 1946.

Dr. Nelson was named associate professor of public health and chairman of the department at

the University of California at Los Angeles in 1946. In 1947 he became an associate professor of preventive medicine and assistant dean of the medical school. In this capacity he played a major part in planning of buildings and program and the assembly of staff for the new college of medicine at U.C.L.A.

Dr. Nelson was certified by the American Board of Preventive Medicine and Public Health in 1949. He is a Fellow in the American Public Health Association and the Southern California Public Health Association, of which he is also a past president.

Dr. Nelson's special scientific interest has been in the epidemiology of poliomyelitis.

The JOURNAL wishes to congratulate Dr. J. H. Randall and his committee for their cooperation and helpfulness in preparing this issue.

## CHANGING PHILOSOPHIES IN BLUE CROSS-BLUE SHIELD

At the recent meeting of presidents and secretaries of county societies, representatives of Blue Cross and Blue Shield discussed changing trends of thought on the part of subscribers to these services. Both plans started originally to provide protection against the catastrophic costs of illness to the low income group. Offered as they were, through groups, they were readily accepted also by higher income individuals in these groups. As living costs have advanced, the demand for increased coverage has increased steadily.

Leaders of the plans are greatly concerned over the future. As physicians we too are concerned and should assume our share of responsibility in making decisions as to future policy.

There has been a widespread demand for higher income limits on the part of the subscribers. Many buyers have insisted that present limits are unrealistic in the face of present day incomes. They desire a higher income limit so that the insurance will more nearly give them a service contract and eliminate the extra bills which may be submitted if they exceed the income limit.

It is inevitable that if the income limit is raised, some fees to physicians must also be raised, and this in turn means that the premium must be increased to cover additional costs incurred. It is possible to survey present utilization and determine within close limits just how much the cost of such expansions will be. It is also true that persons in the upper limits of the income figure would be able to afford the expanded policy, but persons in the low income group would probably be priced out of the market.

The question then arises as to what is best for the public as a whole. Should the plans adhere to their original purpose of providing protection for the low income group, or should they listen to the demand for more comprehensive policies? There are many arguments on both sides.



In other states, Blue Cross-Blue Shield have found that subscribers have preferred to pay more for a contract providing greater benefits, rather than a lower priced policy with certain restrictions. Experiments have been carried out to determine public attitude on this point, with the result mentioned.

There is also a wide demand for some type of deductible policy which would cover catastrophic medical costs. California has experimented with this policy recently and it is hoped figures will be available before long to show whether its experience is satisfactory.

Both Blue Cross and Blue Shield are issuing new contracts containing changes in benefits, fees, and rates. Both groups plan new office procedures to cut costs of administration.

Both Blue Cross and Blue Shield are holding their annual meetings soon. The State Society nominates one physician as a corporate member for each hospital member of Blue Cross, thus giving the medical profession an opportunity to express its views in regard to hospital insurance. Each participating physician is invited to attend the annual meeting of Blue Shield, scheduled for April 27 during our annual meeting. These meetings offer an excellent opportunity for all physicians to enter into the discussions on policy and to express their opinions. What is done now may have a lasting effect on the future practice of medicine.

### PHENYLBUTAZONE (BUTAZOLIDIN)

The late Dr. Walter W. Palmer had a standard prognostic remark when a new drug appeared on the market: "It won't work." He claimed that from 1900 to 1940 this slogan had failed him only twice. In this age of the "deluge of drugs" he would perhaps be wrong more often, and yet his attitude helps to give us caution in the over-enthusiastic acceptance of a new drug.

Phenylbutazone (Butazolidin) is an addition to our antiarthritic armamentarium, but it is a drug which we must view with caution inasmuch as it contains radicals which are potentially toxic to the bone marrow. It is indeed a tribute to the Geigy Pharmaceutical house that in their "Interim Clinical Report" they depict not only the assets but the liabilities of their product. It is apparently particularly effective in rheumatoid arthritis (78% good results),<sup>2</sup> gout, and spondylitis (80% good results).<sup>2</sup> It is relatively less effective in other painful states. The mode of action of this agent is threefold:<sup>1</sup> 1) Its analgesic action is equivalent in intensity and character to the salicylates, pyrazoles, and phenacetin. 2) It has an antipyretic action. 3) Its antiinflammatory action retards both the appearance and degree of inflammation. It is apparently more effective in this regard than aminopyrine or cortisone. In reducing inflammation it apparently reduces capillary permeability. One

further action is worthy of note: it increases the intensity and duration of action of morphine, demerol and para-amino-salicylic acid.

Patients who are relieved from pain are particularly pleased with the action of butazolidin, claiming that it seems to affect them differently than cortisone. Benefit occurs early, if at all, and no tolerance develops upon continued use of the drug. When therapy is discontinued, however, the painful condition will revert to its pretreatment status.

From ten to forty-four per cent<sup>2</sup> of patients who receive the drug suffer from toxic effects, such as rashes, nausea, edema, exacerbation of duodenal ulcer, or temporary aplasia of the bone marrow with agranulocytosis, anemia and/or thrombocytopenia. Most of these effects are transient and revert to normal upon cessation of the drug, but the incidence of toxic effects is indeed high in a drug so newly reported. Usually, reported toxic reactions to a drug increase in frequency and severity as the length of experience with the drug increases. Consequently, we must be extremely cautious in the use of this drug. It would seem more safe to allow the lapse of a year or so before extensive use of the drug, so that experience will have time to crystallize. Let's hope that Butazolidin turns out to be relatively innocuous.

1. R. Domenjoz: Some Pharmacological aspects of Phenylbutazone (Butazolidin), a new Antirheumatic. *Int. Rec. Med.* 165:467 Sept. 1952.

2. Stephens, C. A. L.; Yeoman, E. E.; Holbrook, W. P.; Hill, D. F. and Goodin, W. L.: Phenylbutazone (Butazolidin) in Rheumatoid Arthritis. *J.A.M.A.* 150:1084. Nov. 1952.

### APRIL IS CANCER MONTH

The Iowa Division of the American Cancer Society is again to be congratulated for its outstanding work in the fight against cancer. The service program of this group has long ranked as an outstanding example of what may be accomplished in combatting this serious health problem when everyone will take the time to support those who are working on the project.

The Iowa Division entered its new fiscal year September 1, 1952, with \$372,671.48. Of this amount, \$29,313.28 is held in reserve for nurses' scholarship groups. In addition to the above assets, 40 per cent, amounting to somewhat over \$200,000 of the receipts from the 1952 cancer crusade, were remitted to the national headquarters. Twenty-five cents of every dollar collected is allocated nationally for cancer research. Another 15 cents is apportioned through national headquarters for professional and public education, organization of professional and lay service, administration and fund raising. The remaining 60 cents of each dollar collected in Iowa is retained for local programs of research, education and service.

It is important from both the economic and humanitarian standpoint that the medical profession continue wholehearted support of the continuing campaign against cancer.

## *President's Page*

### FAREWELL

By using the expediency of hanging onto the coattails of my predecessor, Dr. Konzett, and listening to the good advice of my successor, Dr. Larimer, I have succeeded in weathering the past year as your President.

May I express deep appreciation to you all for the honors you have seen fit to confer upon me during the past few years, and sincerely thank the officers, committees, office staff and many in unofficial positions for help and advice they have so freely given. I should also like to express the appreciation of the Society for the splendid job done by Dr. Fowler in filling a most difficult position. Through him we have enjoyed the best cooperation with the medical school in many years. We trust this will continue under the new dean.

The program committee has, I believe, prepared an excellent program for the state meeting, with the emphasis placed on topics of interest to the general practitioner. Let us not forget the Wednesday morning session, which deserves a good attendance.

There will be interesting meetings of the House of Delegates this year, with some controversial matters coming up. Remember these are open to all members. I feel it would be well worth while to attend and see just how your Society works. The House convenes at 2 p.m. Sunday with an opening session.

We have an organization today well respected in Iowa. Let us keep it that way. We can if every one of us will strive to make the Society efficient and united.

Thank you again.

A handwritten signature in cursive script, reading "B. J. Whitaker". The signature is written in dark ink and is positioned above the printed name "President".

*President*



## *General Manager's Page*

### HOUSE OF DELEGATES

"Article V, Section 1. The House of Delegates shall be the legislative and business body of the Society. It shall consist of (a) delegates elected by the component county societies, and (b) ex-officio, the officers of the society as defined in this constitution."

"Chapter IV, Section 3. A majority of the registered delegates and officers shall constitute a quorum. ALL MEETINGS OF THE HOUSE OF DELEGATES SHALL BE OPEN TO MEMBERS OF THE SOCIETY." (The House has the power of declaring an Executive Session. This is seldom exercised.)

The House of Delegates of the 101st Annual Meeting of the Iowa State Medical Society will be called to order at 2 p.m., Sunday, April 26th, by the Speaker of the House, Dr. Eugene Smith.

Your General Manager urges you to attend this session of the House. Many controversial subjects of vital interest to every member of the Society will be discussed and many decisions made.

This is your Society—why not make it a part of your program *this year* to attend the meeting of the House of Delegates?

*R. S. Bernard, m.d.*

*General Manager*

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. LONNIE A. COFFIN, Farmington

*President-Elect*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*Secretary*—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

*Treasurer*—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

---

## COUNTY AUXILIARY ACTIVITIES

One of the most successful activities of the Boone County Auxiliary during the past year has been its sponsorship of the Future Nurses Club in the Boone High School. Monthly meetings were held from October and will be concluded in May. Programs have included films related to nursing. A trip to Lutheran Hospital in Des Moines is scheduled in April. The girls heard an address by Dr. Thomas E. Kane, "Nursing as a Profession"; a talk by a laboratory technician; talks by student nurses and a talk by Mrs. Earl Lynch, R.N., on "War Experiences as a Red Cross Nurse." There were 16 members in the Club during 1951-52; 11 of these girls are now doing very well in nursing schools.

MRS. WALLACE H. LONGWORTH

On Saturday, February 21, members of the Delaware County Medical Auxiliary entertained 16 prospective student nurses at a tea held in the dining room of Delaware County Memorial Hospital. Coffee, punch, cookies and cakes were served to the girls. Mr. Thomas E. Frey, director of nurses at Allen Memorial Hospital, spoke about the nursing course and various other factors to be taken into consideration before entering nursing. After Mr. Frey's speech the film, "Keepers of the Lamp," was shown.

MRS. W. J. WILLET

The Page County Auxiliary was organized in January 1952. Meetings were held on the third Thursday of each month alternately in Clarinda, Essex and Shenandoah. The Auxiliary had dinner with the doctors, held its own business meeting and had programs after the dinner. Press notices were sent regularly to local papers with excellent cooperation from each.

MRS. KENNETH J. GEE

Seventeen members of the Wapello County Medical Auxiliary met at the Cornpicker February 3 for a dinner meeting. A business meeting followed the dinner. It was agreed to entertain the student nurses from St. Joseph Hospital, Ottumwa, informally in the various doctors' homes throughout the year.

Mrs. H. A. Spilman was in charge of the pro-

gram. Several members of the Auxiliary gave selected reports from the Ninth Annual Conference of the National Auxiliary, held in Chicago.

MRS. ROBERT D. DALAGER

Newly elected officers of the Sioux Med Dames are: Mrs. Joseph M. Krigsten, president; Mrs. Robert H. McBride, president-elect; Mrs. Raymond J. Duling, vice president; Mrs. Donald J. Wagner, secretary; Mrs. Louis J. Frank, treasurer.

The Webster County Medical Auxiliary met February 19 for a luncheon and annual business meeting at the Wahkonsa Hotel's Oak Room.

Mrs. Charles Baker was named 1953 president of the Auxiliary, Mrs. Matt Sanders, vice president, and Mrs. Roger E. Drown, secretary-treasurer.

Auxiliary members heard final yearly reports during the meeting and made plans for the craft and hobby show of work by handicapped persons, which they will sponsor again this year in the late spring.

MRS. MARTIN VAN PATTEN

## WHAT COMMUNITIES CAN DO

Good health in any Iowa community largely depends on:

- A. Sanitary Precautions
- B. Disease Prevention
- C. Mental Hygiene
- D. Prenatal Care and Child Health
- E. Hospitals and Nursing Services
- F. Accident Prevention
- G. Health Legislation
- H. Organized Programs

Activities that can be carried on by community leaders to improve individual and community health are:

1. Inform the community regarding the available health facilities and services, both local and state.
2. Compile a directory of all organizations working with health in the area.
3. Plan an educational program designed to promote better use of existing facilities, services and programs by the community.
4. Cooperate with the medical society and other organizations interested in improving health.



5. Cooperate with local school authorities in improving school health.

6. Obtain health information and material from the State Department of Health, Des Moines, State University of Iowa, Iowa City, Extension Service, Iowa State College, Ames and other sources.

7. Discuss the desirability of forming a county health council composed of representatives from all organizations. Information and assistance can be obtained from Extension Service and the State Department of Health.

8. Survey the community for conditions which may contribute to poor health in families, such as, (1) poor housing, (2) faulty sanitation procedure at home and school, (3) poor nutritional standards, (4) inadequate immunization.

9. Make a survey or study of health hazards, problems and needs of the community.

10. Plan and carry on a publicity and health educational program in those health areas where needs have been discovered.

11. Carry on active health programs to effectively meet community needs.

12. Encourage and assist 4-H clubs to carry out health programs and projects.

13. Study proposed legislation to provide improved local health services.

14. Support programs requiring testing of all cows for T.B. and Bangs disease.

15. Call on county and state extension personnel, State Department of Health, local doctors, county nurses and others for assistance in health activities.

Prepared by Merl I. Whorlow, Extension Health Education Specialist, Iowa State College, Ames, Iowa.

Mrs. Carol Towner, administrative assistant of the American Medical Association Department of Public Relations, has written to congratulate the Iowa Woman's Auxiliary on its survey of county health resources and the Clay County Woman's Auxiliary on its *Service and Welfare Bulletin*.

### AMERICAN MEDICAL EDUCATION FOUNDATION

We are all aware that our help is needed by the American Medical Association to meet its annual \$2,000,000 pledge to the American Medical Education Foundation. But what have we, as auxiliaries and individuals, done about our responsibility in meeting this pledge?

It is an established fact that tuition fees cover only 25 per cent of the cost of a medical education. Voluntary contributions to the medical schools are necessary if they are not to become a part of the government subsidy program with the controls which follow.

During the first year, the AMEF gave each 2-year medical school a class "A" grant of \$7500

and a class "B" grant of \$17.00 per student. A new policy now allows contributions which are earmarked for specific schools to be given over and above the yearly grants from the Foundation. Our West Virginia School of Medicine received \$7500 type "A" grant and \$1,000 type "B" grant. Eleven doctors and two organizations contributed \$1,279. Are we doing our share?

In June, 1952, a national committee was formed for the purpose of collecting voluntary gifts from Auxiliary members. We are not asking for any specific amount but hope we can answer the AMA's request for help by voluntary contributions from every auxiliary.

"Every Auxiliary a Contributor" is our goal! No sum is too small for the Foundation to accept and to give credit to the auxiliary or individual donor. Individuals contributing are reminded that contributions may be deducted for tax purposes.

You can raise funds by any of the means suggested below or by using any other ways that are popular in your community:

1. A contribution from your treasury.

2. Gifts from individual members.

3. Contribution from the individual members or the auxiliary as a memorial or tribute or anniversary gift.

4. (a) A piggy bank collection collected at each auxiliary meeting. (b) Each member have a bank for daily contributions.

5. White elephant sale at auxiliary meeting.

6. Medical education fund corsages.

7. A Chinese auction.

*West Virginia News Bulletin*  
February 1953

Mrs. Harold A. Spilman, Ottumwa, will receive donations from Iowa Auxiliaries.

"An organization is only as strong as its members, the information they possess, and the desire they have to serve."—T. C. Terrell, M.D., President of Texas Medical Association.

### TEN WAYS TO KILL AN AUXILIARY

1. Don't go to the meetings.

2. If you go, be late.

3. Should you go out of curiosity, make a point of leaving early. This always encourages those who have worked to make a program interesting or a social hour pleasant.

4. If you do attend a meeting, find fault with the work of the officers and members.

5. Never accept office. It is easier to criticize than to do things.

6. Get sore if you are not appointed on committees but if you are, do not attend committee meetings.

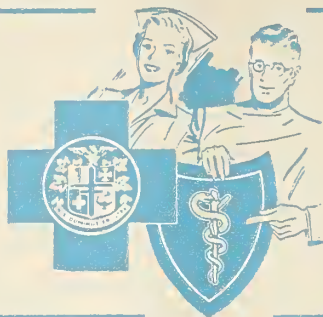
7. If asked by the chairman to give your opinion on some matter, tell her you have nothing to

(Continued on page 161)



---

# BLUE CROSS



# BLUE SHIELD

---



*Blue Cross-Blue Shield Lounge, Iowa State Medical Society Annual Meeting, 1952.*

## BLUE CROSS-BLUE SHIELD

We want to take this opportunity to cordially invite all doctors attending the annual meeting of the Iowa State Medical Society to visit the Blue Cross-Blue Shield lounge which will be set up in the roller rink. Refreshments will be served throughout the day and officers of Blue Shield and Blue Cross will be available at all times to visit with doctors on any matters relating to the Plans. What with the new Blue Shield coverage and the multiplicity of Blue Cross contracts, many questions may come to mind between now and the time of the state meeting. This will afford an opportunity to have all points clarified. We will make every effort to arrange the lounge so it will be as comfortable as possible in the hope that you will look forward to your visit as an opportu-

nity to relax. Last year approximately 700 physicians visited the lounge.

---

## IMPORTANT NOTICE

The annual meeting of Blue Shield participating physicians is to be held in the Grand Ballroom, Hotel Fort Des Moines, 5:00 p.m., Monday, April 27. Important policy matters will be discussed at this meeting as well as the election of seven board members. Your counsel in developing policies for Blue Shield is necessary. The future of the program is entirely dependent on the guidance it receives from its sponsors—the physicians in Iowa. We urge you to attend this meeting and to take part in the discussion. Since several board mem-



bers are up for election we urge you to exercise your prerogative and participate in the voting.

A breakfast meeting of all Blue Shield Board members is scheduled for 8:00 a.m., Monday, April 27, Flamingo Room, Hotel Fort Des Moines.

Blue Shield Monthly Statistics, February 1, 1953  
 Enrollment ..... 397,292  
 Claims Processed for Payment ..... 7,649  
 Amount Paid in Claims ..... \$247,703.67

## The Teaching Value of the Veterans Hospital

(Continued from page 153)

themselves of the opportunity. This series complements the College of Medicine lectureships and plays an important role in both undergraduate and graduate teaching.

In the short time the Veterans Administration Hospital has been in operation it has become evident that it will be a valuable adjunct to the teaching of medicine. The intention is to integrate this hospital into the teaching program to the greatest extent possible. At the same time, it is an independent institution controlled by a separate agency. This must be kept constantly in mind. The Veterans Hospital facilities must be used always to supplement teaching and never to substitute for teaching in the University Hospitals.

## Woman's Auxiliary News

(Continued from page 159)

say. After the meeting tell everyone how things should be done.

8. Do nothing more than absolutely necessary, but when members use their ability to help matters along, howl that the institution is run by a clique.

9. Hold back your dues, or don't pay at all.

10. Don't bother about getting new members. (sic) "Let Ruth do it."

—"The Quarterly Bulletin," Woman's Auxiliary to the Missouri State Medical Association (Slightly edited.)

## CREDO OF A DOCTOR'S WIFE

I believe in the principles of the Woman's Auxiliary to the American Medical Association, which fosters fellowship, benevolence, education and patriotism.

I do solemnly pledge that I will be loyal to the profession of medicine, and just and generous to its members.

I will not be adversely critical of Auxiliary objectives and ideals, but will support its cause and will respect the rights of its members.

I solemnly promise to uphold the dignity of my husband's profession and will help him render service to humanity in seeking to secure for him the free and unfettered practice of medicine.

—By MRS. FRANK N. HAGGARD

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

### HI-FORUM

April 2 ..... Sports and Recreation  
 April 9 ..... Date With the Doctor  
 April 16 ..... Out-of-School Jobs  
 April 23 ..... Big and Beautiful  
 April 30 ..... Choose Your Partner

WSUI—Tuesday at 11:45

### EVERYDAY HEALTH PROBLEMS

April 7 ..... Liver Disease  
 April 14 ..... The Common Cold  
 April 21 ..... Old Age  
 April 28 ..... Drug Addiction

## TELEVISION SCHEDULE

WOI-TV—at 9:00 p.m.

April 1 .....  
 April 15 ..... Skin Health  
 April 29 ..... Geriatrics

## QUESTION TO THE EDITOR

"What is the comparative value of a basal metabolic rate and a blood analysis in the determination of toxic goiter? Would you say a blood analysis is superior to a BMR? Some apparently maintain that there is not so much variation in a blood analysis as in a basal metabolic rate determination. What is the consensus of opinion about this?"

P. V. Z.

Answer:

A direct comparison of blood constituents and the basal metabolic rate is not possible, because different tests for hyperthyroidism assay different facets of the disease. However, it seems to be the consensus in this country that protein-bound iodine determinations are more accurate than basal metabolic rates in the diagnosis of hyperthyroidism. In one series the analyses of blood protein-bound iodine agreed with the clinical impression in 95 per cent of cases, whereas the basal metabolic rate agreed with the clinical impression in 71 per cent. Radio-active iodine uptake determinations are also quite accurate. Analyses of blood cholesterol, however, are not to be relied on in hyperthyroidism. Determinations of radio-active iodine uptake and of protein-bound iodine content of the blood, however, are very difficult technical procedures and can only be performed in institutions having a highly trained technical staff. At the present time the iodine analyses are not suitable for routine use.

---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## AAGP STUDY REPORTS

This is the first time that the annual study reports have been reviewed for the preceding three year period of membership. In the mushroom-like growth of the American Academy of General Practice, it is only human that various deficiencies should appear. There is now a question whether all blanks that should have been sent out from Kansas City shortly after the first of the year were mailed. In many instances when these blanks were returned, they were either overlooked or mislaid. This year the mailing of the blanks has been delayed.

Action on the renewal of membership for many of the men is delayed for lack of reports. As quickly as we can, we are notifying each individual member of the missing reports and supplying needed blanks. We will get those forms out as soon as possible, and ask that they be returned promptly. We shall be glad to help you in any way we can.

---

## THE STUDY REQUIREMENTS

The Constitution of the American Academy of General Practice states that 150 hours of postgraduate work must be done every three years, 50 hours of which must come from attendance at formal postgraduate courses. The exception to this is in the case of a doctor who has attained the age of 70 years or has completed 30 years of general practice. He is then eligible to become an emeritus member, which gives him the same rights and privileges as an active member but releases him from the necessity of fulfilling his educational requirements.

It is the opinion of all the men we contact that the educational requirements are good. They lend prestige to membership because in the very fact that a man is a member of the AAGP lies a reassurance to his patients and colleagues that he is progressive and interested in his profession.

We hope in the near future to be able to publish a list of meetings in the surrounding area acceptable for formal postgraduate credit by the Iowa Chapter. In general, the theory of formal postgraduate credit is that the courses should include any of those listed as postgraduate courses

in the list published in the *Journal* of the A.M.A. The amount of credit is determined by actual clock hours spent in attending lectures or demonstrations. Thus, included would be any course designed as a postgraduate course offered by the University of Iowa or any other medical college. The courses sponsored and arranged by the Iowa Academy of General Practice or any state chapters or by the American Academy of General Practice are acceptable as formal postgraduate work.

Hospital staff meetings or conferences, county and state medical meetings or any other medical scientific meetings not mentioned, are acceptable as credit for those hours required outside of the 50 formal hours. Credit is given for scientific papers presented, and extra credit if the paper is published.

The Iowa Academy offers enough formal hours here in the state to fulfill the formal credit requirements. It should be easy to get in the necessary hours. Even more important, it makes us better doctors.

---

## STATE MEDICAL SOCIETY MEETING

There will be a luncheon meeting for general practitioners sponsored by the Iowa Academy of General Practice at noon on Monday, April 27, in the Palm Room, Hotel Fort Des Moines. Get your ticket at the registration desk.

Also, visit the booth of the Iowa Academy of General Practice in the building of the Midtown Roller Rink, where all scientific exhibits will be.

---

## IOWA ACADEMY OF GENERAL PRACTICE MEETINGS

The annual meeting of the Iowa Academy of General Practice and a scientific meeting will be held at the Hotel Savery, Des Moines, September 24 and 25. A social function is being planned for the evening of September 24. Wives are invited to attend also, and entertainment will be provided for them.

This year the November meeting will be at the Hotel Warden, Fort Dodge, on November 12.

(Continued on page 165)



---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

BACK DOWN THE RIDGE, by W. L. White. Harcourt, Brace and Co., New York, 1953. Price \$3.00.

CLINICAL ALLERGY, by French K. Hansel, M.D., M.S., Director, Hansel Foundation for Education and Research in Allergy; Chief of Allergy Service, DePaul Hospital, St. Louis. The C. V. Mosby Co., St. Louis, 1953. Price \$17.50.

DISEASES OF THE HEART AND ARTERIES, Anatomical and Functional Disturbances of the Circulation, and Treatment, by George R. Herrmann, M.S., M.D., Ph.D., F.A.C.P., Professor of Medicine, University of Texas; Director of the Cardiovascular Service and Heart Station, University Hospitals; Consultant in Vascular Diseases, United States Marine Hospital; Consultant in Medicine to the Surgeon General, United States Army. Fourth Edition. C. V. Mosby Co., St. Louis, 1952. Price \$12.50.

## BOOK REVIEWS

DISEASES OF METABOLISM, by Garfield G. Duncan, M.D. (W. B. Saunders Co., Philadelphia, \$15.00.)

One of the world's most eminent endocrinologists, Dr. Garfield Duncan, has edited this text by calling upon other experts to write the chapter that each is most qualified to prepare.

All metabolic disorders, both rare and common, are thoroughly dealt with, first by a presentation of the normal metabolism and then by a description of how it is distorted by pathologic changes. Soskin's chapter on carbohydrate metabolism is a newer revision of his well known work in the field. A later section on diabetes mellitus by Duncan himself is a pleasure to read. The other glands of internal secretion are included in the appropriate sections as they apply to the disorder under discussion.

This text is particularly delightful because of the clear and yet thorough style in which the subjects are presented. Duncan is a fine teacher, which helps to account for this noteworthy achievement.—A. G. Lueck, M.D.

CARDIOLOGY IN GENERAL PRACTICE, Electrocardiography, Vectorcardiography and Ballistocardiography, by Abraham I. Schaffer, M.D. (Williams and Wilkins Co., Baltimore, \$3.00.)

Dr. Schaffer has written an electrocardiographic monograph for the general practitioner of an extremely elementary nature. The text's commendable characteristics are as follows: (1) Excellent, concise chapters on how the heart behaves electrically and on the absence of Q waves in subendocardial anoxia; (2) Schaffer has an excellent electrocardiographic explanation for the negative T waves in youth in unipolar precordial leads V 1 and V 2; (3) an honest and unbiased scientific approach to his subject, and (4) his success in focusing our attention on the ability of the vectorcardiogram to reveal the presence of a myocardial infarction when the electrocardiogram is unable to give this information.

I believe the liabilities are as follows: (1) The electrocardiographic differential diagnosis between myocardial infarction and pulmonary infarction the author refers to are not of recent origin; (2) I personally question Schaffer's statement, on pages 20 to 21, concerning the blood supply and seriousness of

subendocardial thrombosis. We have no definite, specific anatomic or physiologic explanation of the subendocardial circulation. It has been my experience, in a limited number of thrombotic subendocardial cases, that the mortality is very low when the infarction is limited only to the subendocardium and does not extend through the myocardium to the epicardium; (3) Schaffer is enthusiastic about the coronary tolerance test, but I believe this test has very definite limitations; (4) I think that Schaffer's vectorcardiographic discussion of the conduction defects and also his differentiation between right and left bundle branch block, are debatable. As usual, there are two schools of thought on the subject. This chapter is no exception.

I have tried to give an impartial review of this monograph. It is now up to our profession to decide if the book is worth the purchase price.—G. H. Finch, M.D.

PRACTICAL DERMATOLOGY, by George M. Lewis, M.D. (W. B. Saunders Co., Philadelphia, \$7.50.)

Dr. Lewis, a dermatologist of wide clinical experience, has written an excellent book in a concise and well illustrated manner.

The table of contents reflects how well he has organized his material. The various diseases of the skin are grouped so that they are easy to find. The chapters are written in a clear and understandable style. A short definition of each disease is given, followed by a condensed, up-to-date discussion of the symptoms, etiology, differential diagnosis and treatment. In addition, there are chapters discussing diagnostic methods, dermatologic therapy and dermatologic formulary.

The considerable amount of material in this book is presented in a condensed manner. There are also 99 plates with 405 valuable photographs. The reader will find a useful bibliography consisting of textbooks and monographs written by leading dermatologists and scientists in related fields.

This book is written primarily for the use of students and general practitioners.—M. H. Noun, M.D.

SURGERY OF THE CHEST, a Handbook of Operative Surgery, by Julian Johnson, M.D., and Chas. K. Kirby, M.D. (Year Book Publishers, Inc., Chicago, \$9.00.)

This is an atlas of thoracic surgical operations so written as "to provide all the information needed by those with a background in general surgery who wish to learn the technic of thoracic surgical procedures."

The authors have presented the material clearly and simply so that students of thoracic surgery at any level of training may understand how the various operations are performed. The authors make no claim to any of the procedures as their own, nor do they present a bibliography. For the most part the operative procedures discussed and illustrated are well accepted techniques at the present time.

This book is particularly recommended for "beginners" in thoracic surgery since it does not go into many of the finer details of the various problems discussed.—R. A. Dorner, M.D.

# STATE DEPARTMENT OF HEALTH

*Walter L. Biarring*

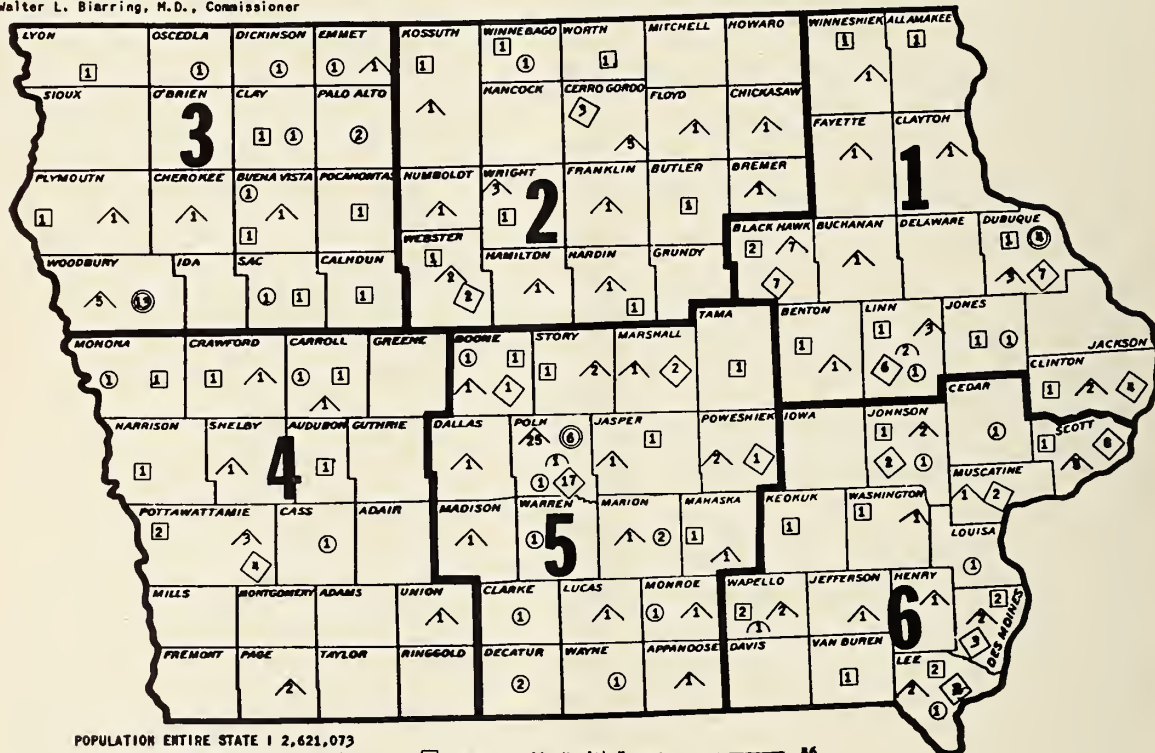
## OPEN HOUSE

THE STATE DEPARTMENT OF HEALTH  
Cordially invites the members of the  
IOWA STATE MEDICAL SOCIETY  
and the  
Woman's Auxiliary to the Iowa State Medical  
Society  
to an Open House  
Monday, April twenty-seven  
Tuesday, April twenty-eight  
three to five o'clock  
New State Office Building  
Third Floor

## MORBIDITY REPORT

DISEASE	FEB. 1953	FEB. 1952	JAN. 1953	MOST CASES FROM THESE COUNTIES:
Diphtheria	3	1	4	Black Hawk, Mills, Woodbury
Typhoid Fever	2	0	5	Emmet, Franklin
Scarlet Fever	136	96	147	Appanoose, Polk, Story
Smallpox	0	0	0	.....
Measles	427	266	421	Boone, Buena Vista, Linn
Whooping Cough	5	22	17	Scattered
Brucellosis	29	22	21	Black Hawk, Plymouth, Wapello
Chickenpox	621	336	1040	Des Moines, Polk, Dubuque
Meningitis men.	5	0	10	Henry, Lyon, Marion, Poweshiek, Scott
Mumps	147	418	169	Des Moines, Dubuque, Linn
Poliomyelitis	5	3	7	Buchanan, Cerro Gordo, Clayton, Polk, Scott
Rabies in Animals	26	21	18	Audubon 3, Carroll 3, others scattered
Tuberculosis	50	63	48	For the State
Gonorrhea	72	41	118	For the State
Syphilis	134	106	178	For the State
Infectious Hepatitis	139	180	106	Polk, Pottawattamie, Wapello

IOWA STATE DEPARTMENT OF HEALTH  
Walter L. Biarring, M.D., Commissioner



POPULATION ENTIRE STATE 2,621,073

REGION NO.	NO. OF COUNTIES	POPULATION (1950 CENSUS)
1	13	518,069
2	18	360,828
3	16	359,051
4	19	349,782
5	18	589,836
6	15	447,721

□	County Public Health Nurses	46
◇	Visiting Nurse Association Nurses	72
△	School Nurses	112
○	Part-time School Nurses	27
●	Local Health Department Nurses	23
○	Other Agency Nurses (Communicable Disease)	4



## IOWA INTERPROFESSIONAL COMMITTEE ON EYE CARE

An Iowa Interprofessional Committee on Eye Care has been formed. Two meetings have been held. The committee is composed of three physicians, three optometrists, two representatives of the retail opticians and two representatives of the wholesale opticians.

This committee deems its objectives to be the full deliberation of all facets of relationship between the professions of Ophthalmology, Optometry, and Opticianry, to the end that any and all practices which can detract from, or impair the quality of eye care to the general public be eliminated; and that everything feasible be done to obtain optimum eye care for the general public through the encouragement of interprofessional relationships. The proper sphere of activity of this group of necessity, for the present, must be limited to the making of recommendations to the respective parent groups.

This committee is being supported by the Iowa Academy of Ophthalmology and Otolaryngology, the Iowa Optometric Society and the opticians. A fund totaling \$200.00 has been raised by these groups to defray incidental operating expenses.

ALSON E. BRALEY, M.D., Chairman  
Iowa Interprofessional Committee  
on Eye Care

CARL O. LOFGREN, Secretary

## IOWA TUBERCULOSIS AND HEALTH ASSN. IOWA HEART ASSOCIATION IOWA TRUDEAU SOCIETY

Annual Meeting, May 7 and 8, 1953

Hotel Savery, Des Moines

### MEDICAL SESSIONS

Thursday, May 7

### MORNING SESSION

10:15 a. m. Problems of pulmonary resection and emphysema. Concepts developed from studies of pulmonary function.

Dr. David Gillespie, Cleveland, Ohio; Dr. Steven M. Horvath, Iowa City; Dr. Jerome Kleinerman, Cleveland, Ohio

12:00 noon Luncheon.

### AFTERNOON SESSION

John C. Parsons, M.D., Presiding

2:15 p. m. Symposium: Combined approach to tuberculosis treatment; contributions of Chemotherapy, surgery and clinical laboratory. Drs. Charles Gray, Ottumwa; Daniel F.

Crowley, Jr., Des Moines; and Wallace Rindskopf, Des Moines

Differentiation of bronchial and cardiac asthma.

Dr. Paul M. Seebohm, Iowa City

Modern drug treatment of arterial hypertension.

Dr. Walter M. Kirkendall, Iowa City

Review of Intrathoracic cardiovascular surgery.

Dr. Johann L. Ehrenhaft, Iowa City

## MEDICAL LICENSES ISSUED FROM

October 27, 1952 to January 19, 1953

Medical licenses were issued to the following by the Iowa State Board of Medical Examiners from Oct. 27, 1952, to Jan. 19, 1953: Rudolph Vincent Basso, Imola, Calif.; Rolland D. Bateman, Jr., Iowa City; William Peter Berard, Iowa City; Charles Roy Burroughs, Knoxville; Edwin Forrest Buzan, Jr., Des Moines; Paul Willard Carlisle, Des Moines; Velma Elizabeth Coffin, Iowa City; Mary E. Couchman-Pucci, Des Moines; Paul Joseph Crowley, Davenport; Thomas P. deGraffenried, Des Moines; Robert Stewart Duff, Iowa City; Cloyde L. Fausnaugh, Ames; David G. Gilbertson, Des Moines; John Armes Gius, Iowa City; Stanton L. Goldstein, Davenport; Joseph Christian Gottsch, Shenandoah; James Jackson Hea, Jr., Butlerville, Ind.; George John Hegstrom, Des Moines; James Henry Jeffries, Chicago, Ill.; Robert Morris Kaplan, Davenport; William M. Komanetsky, Benld, Ill.; Isaac Wellman Leighton, Iowa City; Vincent Victor Leonardo, Lincoln, Neb.; Daniel D. Lovelace, Jr., Dubuque; Maurice P. J. Margules, Cherokee; John Wendell Moberly, Dubuque; Gordon L. Neligh, Jr., Council Bluffs; Francis H. Richardson, Iowa City; George W. Rowney, Jr., Sioux City; Geraldine Satrang, Sioux City; Richard Warren Smith, Clarion; D'Annette Snyder, Des Moines; Ernest James Sotop, Hamburg; Tom William Stivers, Des Moines; Robert Allen Utterback, Iowa City; Margaret Vance, Iowa City; Raymond W. Wilhelmi, Sioux City; and Masa Yamamoto, Iowa City.

## Iowa Academy of General Practice

(Continued from page 162)

On Thursday, Jan. 21, 1954, the third postgraduate course will be held in Des Moines at the Hotel Savery.

Excellent programs are being planned for all three meetings. And remember—attendance at the three meetings sponsored by the Iowa Academy of General Practice each year will guarantee the 50 hours of formal postgraduate work needed every three years for re-election to membership.

### SAVE THESE DATES:

Sept. 24 and 25, 1953

Nov. 12, 1953

Jan. 21, 1954

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Black Hawk

Robert P. Glover, M.D., of Philadelphia, Pennsylvania, spoke at the monthly meeting of the Black Hawk County Medical Society on Thursday, February 10. The meeting was held in the Elks Club in Waterloo. Cardiac surgery was the subject of Dr. Glover's talk.

### Dubuque

The regular monthly meeting of the Dubuque County Medical Society was held at the Elks Club in Dubuque Tuesday, February 10. Robert T. Tidrick, M.D., head of the department of surgery at the State University of Iowa College of Medicine discussed operative cholangiography and the management of extra-hepatic biliary obstruction. The discussion was led by Drs. Robert E. Peterson, Paul B. Skelley and Arthur G. Plankers of Dubuque.

Albert B. Hagedorn, M.D., professor of medicine at the Mayo Foundation, was the speaker for the March 10 meeting. Dr. Hagedorn discussed the management of anemia. Discussers were Doctors D. F. Ward, G. T. Bradford and C. C. Griffin.

### Hamilton

New officers of the Hamilton County Medical Society are: R. A. Patterson, M.D., president; R. C. Crumpton, M.D., vice-president; and W. B. McGahey, M.D., secretary. All three physicians are residents of Webster City.

### Harrison

The Harrison County Medical Society met Monday evening, February 9 at the Tamarack Hotel in Missouri Valley. Ralph H. Heeren, M.D. of the State Department of Health, headed a round table discussion of contagious diseases. Scientific movies on poliomyelitis were also shown.

### Jackson

The Jackson County Medical Society held a dinner meeting Friday, January 30 at the Jackson County Hospital. Officers for the coming year were elected as follows: O. L. Frank, M.D., of Maquoketa, president; W. C. Zabloudil, M.D., of Preston, vice-president; and J. J. Tilton, M.D. of Bellevue, secretary-treasurer. Robert A. Towle, M.D., of Davenport was the guest speaker, discussing infectious diseases.

### Linn

The Linn County Medical Society held its an-

nual ladies' day meeting on Thursday, February 12, at the Roosevelt Hotel in Cedar Rapids. A social hour preceded the dinner and a program of entertainment followed.

A. Carlton Ernstene, M.D., chief of medicine for the Cleveland Clinic Foundation, was guest speaker at the March meeting held March 12 at the Montrose Hotel in Cedar Rapids. Dr. Ernstene discussed the management of congestive heart failure.

### O'Brien

New officers of the O'Brien County Medical Society are: A. D. Blenderman, M.D., Paullina, president; L. J. Sweeney, M.D., Sanborn, vice-president; and W. S. Balkema, M.D., Sheldon, secretary-treasurer.

### Polk

James T. Priestley, M.D., of the Mayo Clinic, Rochester, Minnesota, was the guest speaker at the February meeting of the Polk County Medical Society, held Wednesday evening, February 18, at the Hotel Savery. Dr. Priestley discussed surgical lesions of the adrenal glands. Dr. Priestley is a professor of surgery at the Mayo foundation graduate school of medicine.

### Sac

Scientific motion pictures provided the program for the February meeting of the Sac County Medical Society. Guests from surrounding counties were present. The meeting was held in the Park Hotel in Sac City.

### Upper Des Moines

The annual winter meeting of the Upper Des Moines Medical Society was held at the Country Club in Emmetsburg, Thursday evening, February 19. Doctors from the surrounding counties were in attendance.

### Sioux Valley

The 57th annual meeting of the Sioux Valley Medical Association was held at the Martin Hotel in Sioux City, February 24-26. Speakers included: F. E. Kelsey, M.D., of the University of South Dakota; M. Edward Davis, M.D., of Chicago; Asher A. White, M.D., and Roger W. Ridley, M.D., of the Mayo Clinic, Rochester; G. O. Proud, M.D., of the University of Kansas; and R. T. Tidrick, M.D., Raymond G. Bunge, M.D., and J. C. MacQueen, M.D., of Iowa City.



### Pottawattamie

The Pottawattamie County Medical Society is planning to hold a symposium on the medical and surgical treatment of hypertension on May 25. The meeting will be held in the Hotel Chieftain in Council Bluffs. Speakers will be: Ray W. Gifford, Jr., M.D., of the Division of Internal Medicine, and C. F. MacCarty, M.D., of the Division of Neurosurgery, Mayo Clinic. A social hour will be held at 5:00 o'clock, followed by dinner at 6:00 and then the scientific discussion.

### Scott

Dr. Charles D. May, Professor and head of the Department of Pediatrics of the College of Medicine, presented a paper on the management of acute severe illness before the Scott County Medical Society, Tuesday, March 3.

### Iowa X-Ray Club

The Iowa X-Ray Club was the guest of the Department of Radiology at the College of Medicine in Iowa City on Saturday, February 14. S. A. Forbes, M.D., and M. M. Garrett, M.D., discussed gastrointestinal bleeding. C. L. Gillies, M.D., spoke on fractures of the ankle. H. D. Kerr, M.D., moderated a session on therapeutic problems, the other members being S. F. Singer, M.D., of Ottumwa; A. E. Perley, M.D., Waterloo; A. P. Echternacht, M.D., of Fort Dodge; and H. B. Elkins, M.D., of Iowa City. G. S. Lodwick, M.D., of the Veterans hospital in Iowa City, discussed bone tumors and E. F. Van Epps, M.D., led a diagnostic panel in which the other participants were R. E. Flynn, M.D., of Iowa City; John Bacon, M.D., of Ames; and Robert S. Bell, M.D., of Burlington.

### PERSONALS

**Milford E. Barnes, M.D.**, of Iowa City, **Herbert W. Rathe, M.D.**, of Waverly, **Herbert E. Stroy, M.D.**, of Osceola, **Prince E. Sawyer, M.D.**, of Sioux City and **Fred Sternagel, M.D.**, of West Des Moines were reappointed to the State Board of Health by Governor William S. Beardsley.

**James T. Bradbury, M.D.**, and **R. H. Flocks, M.D.**, of the College of Medicine, were guest speakers at the meeting of Sigma Xi, national honorary science fraternity, held in Iowa City February 18. Dr. Bradbury discussed estrogen and progesterone in the production and maintenance of decidua and Dr. Flocks discussed the use of gold in treating certain types of cancer.

**Walter L. Bierring, M.D.**, of Des Moines, State Health Commissioner, was honored Thursday night, March 5, at a testimonial banquet of the Iowa Public Health Association. **A. J. Chesley, M.D.**, State Health Commissioner for Minnesota, spoke of Dr. Bierring's many activities, and **Mr. John A. John-**

**son**, retiring president of the Iowa Public Health Association, presented Dr. Bierring with a suitcase.

**Dr. Joseph E. Christopherson** of Mason City spoke on cancer to the Acorn club of Lakota on Thursday evening, March 5.

**Dr. Paul Ferguson** of Lake City discussed different phases of pediatrics before the Calhoun County Nurses' Association, Monday, March 2. **Marie Hanson**, also of Lake City, spoke on the state and district associations of registered nurses.

**Dr. George B. Crow** of Burlington was selected by Governor William S. Beardsley to represent Iowa at the First Western Hemisphere conference of the World Medical Association at Richmond, Virginia, April 23-25. A. H. Robins Company, Inc., of Richmond, which is 75 years old this year, is underwriting the expenses of the conference of doctors from all states of the union.

**Dr. Richard Hastings** of Ottumwa discussed x-ray and how it assists in diagnosis at a meeting of the Professional Registered Nurses club in Ottumwa. The meeting was held Tuesday evening, February 24.

**Dr. Lee F. Hill** of Des Moines was the guest speaker for a program sponsored by the Child Development Club of Iowa State College at Ames, Tuesday, February 24. Dr. Hill discussed growth failure in children.

**Dr. Richard B. Leander**, formerly with the Neuropsychiatric Department of the U. S. Navy, has become associated with **Doctors W. E. Ash and J. D. Mahoney** in Council Bluffs. Born in 1916, Dr. Leander was graduated from Creighton University School of Medicine in 1942 and has been in naval service since that time, having recently been director of the Naval Psychiatric Hospital at Portsmouth, N. H.

**Dr. James W. Martin** of Holstein has resumed his medical and surgical practice after an illness of two years.

**Dr. Edward Ridenour** has opened an office for the practice of medicine in Dunkerton. Dr. Ridenour is the son of **Dr. J. E. Ridenour** of Waterloo.

**Dr. Sidney Sands** of Des Moines was speaker for the annual meeting of the Linn County Mental Health Society Friday evening, February 20, in Cedar Rapids.

**Dr. John K. Stewart** of Clinton was one of three speakers before the Clinton Rotary Club of Clinton on Monday noon, March 2. Dr. Stewart discussed blood and how it applies to the community.

Mr. Einer Petersen discussed the importance of blood on the battlefield, and Mrs. Doris Halsrud gave details regarding the operation of the local blood bank.

**Dr. Charles F. Watson** of Stacyville has been summoned to report for duty with the U. S. Public Health Service, March 1.

**Dr. Harry B. Weinberg**, formerly of Davenport, has resumed his medical practice there after an absence of some seven months.

### DEATH NOTICES

**Dr. Daniel V. Moore**, Sioux City, died February 7 at the age of 73. Born in 1879, Dr. Moore, a graduate from Creighton University School of Medicine in 1905, had practiced in Sioux City for many years and had been a member of the Iowa State Medical Society until 1948 when illness forced his retirement.

### ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of March 10, 1953

Ackerman, J. H., Clarksville (Tallahassee, Fla.) ...Senior, Asst. Surg., U.S.P.H.S.	Kenney, B. E., Woodbine .....1st Lt., U.S.A.F.
Arnold, K. E., Sioux City	Kruse, R. H., Conrad (Pearl Harbor, T. H.) .....Lt., U.S.N.R.
Ashby, J. D., Davenport	Kuehn, W. G., Clarinda (APO San Francisco, Calif.) ....Lt. (j.g.), U.S.N.R.
Bartholomew, R. D., Lake City (Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R.	Kurth, R. J., Waterloo (Minneapolis, Minn.) .....Capt., U.S.A.F.
Benton, J. S., Des Moines.....1st Lt., A.U.S.	Leiter, E. R. K., Des Moines (Bangor, Me.) .....Capt., U.S.A.F.
Bogle, W. C., Marion (Great Lakes, Ill.) .....Lt., U.S.N.R.	Martins, J. K., Waterloo (New London, Conn.) .....Lt., U.S.N.R.
Braatlien, N. T., Des Moines (Camp Carson, Colo.) .....1st Lt., U.S.A.F.	Middleton, W. H., Central City (Quantico, Va.) .....U.S.N.R.
Brennan, J. E., Des Moines (Camp Pendleton, Calif.) .....Lt., U.S.N.R.	Montgomery, A. E., Jefferson (Phoenixville, Pa.) .....Lt. Col., A.U.S.
Buzan, E. F., Des Moines (Spring Grove, Ill.) .....	Neagle, P. E., Dubuque (Sault Ste. Marie, Mich.) .....Capt., A.U.S.
Couchman, P. G., Des Moines (San Antonio, Tex.) .....1st Lt., U.S.A.F.	Nordin, C. A., Des Moines (Lackland Field, Texas) .....1st Lt., U.S.A.F.
Davidson, M. C., Emmetsburg (El Paso, Tex.) .....Col., A.U.S.	Paul, R. E., Des Moines (FPO San Francisco, Calif.) .....Lt., U.S.N.R.
Donahoe, J. F., Fort Dodge (Des Moines, Iowa) .....1st Lt., A.U.S.	Puntenney, A. W., Boone (Portsmouth, Va.) .....Lt., U.S.N.R.
Dooley, J. E., Fort Dodge (Pleasanton, Calif.) .....Capt., U.S.A.F.	Ruble, R. L., Nevada (Camp Chaffee, Ark.) .....A.U.S.
From, Paul, West Des Moines (San Antonio, Texas) .....1st Lt., U.S.A.F.	Saunders, R. J., Colfax (Great Falls, Mont.) .....1st Lt., U.S.A.F.
Gladstone, W. S., Jr., Iowa City (Crestview, Fla.) .....U.S.A.F.	Schlichtemeier, E. O., Peterson (FPO San Francisco, Calif.) .....Lt., U.S.N.R.
Godbey, M.D., Mt. Pleasant	Shaffer, F. J., Iowa City.....Col., U.S.A.F.
Greco, D. J., Des Moines (APO San Francisco, Calif.) .....1st Lt., A.U.S.	Shuldberg, Arthur, Des Moines (Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
Hickman, D. M., Indianola (Gunter AFB, Ala.) .....1st Lt., U.S.A.F.	Smith, C. B., Iowa City (Bowling Green, Ky.) .....Capt., A.U.S.
Horton, R. R., Algona (Seattle, Wash.) .....Lt., U.S.N.R.	Stutsman, R. E., Washington (Miami, Fla.) .....Cmdr., U.S.N.
Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas) .....Capt., U.S.A.F.	Theilen, E. O., Iowa City (Washington, D. C.) .....Capt. A.U.S.
Johnson, M. H., Iowa City (APO New York, N. Y.) .....Capt., A.U.S.	Thistlewaite, E. A., Des Moines (Riverside, Calif.) .....1st Lt., U.S.A.F.
	Thompson, J. W., Ames .....
	Thornton, F. E., Des Moines (Portsmouth, Va.) .....Lt. Cmdr., U.S.N.R.
	Tice, W. K., Iowa City (Kansas City, Kan.) .....1st Lt., A.U.S.
	Troxel, J. F., Cedar Rapids (APO New York, N. Y.) .....1st Lt., A.U.S.
	Uchiyama, J. K., Des Moines (Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
	Vincent, J. F., Fort Dodge (Langley A.F.B., Va.) .....Capt., U.S.A.F.
	von Lackum, L. S., Oelwein (Great Lakes, Ill.) .....Lt., U.S.N.R.
	Voorhees, P. H., Ottumwa (Jamaica, N. Y.) .....U.S.N.R.
	Waldmann, E. B., Council Bluffs (Santa Ana, Calif.) .....Lt., U.S.N.R.
	Walker, J. R., Waterloo .....
	Walston, J. H., Graettinger (Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
	Watson, C. F., Stacyville (Hot Springs, Ark.) .....U.S.P.H.S.
	Wehrmacher, W. H., Iowa City (Oceanside, Calif.) .....U.S.N.R.
	Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.) .....1st Lt., A.U.S.
	*Wilkins, D. S., Iowa City (APO San Francisco, Calif.) .....Capt., A.U.S.
	Witte, H. J., Marathon (San Francisco, Calif.) .....Lt. Col., A.U.S.
	Young, R. A., Clarion (Ft. Sam Houston, Tex.) .....Capt., A.U.S.
	Zeilenga, R. H., Orange City (Madison, Wisc.) .....1st Lt., U.S.A.F.

\* Deceased



# The JOURNAL

of the

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, MAY, 1953

No. 5

### WHAT THE PATIENT'S STORY SUGGESTS TO THE NEUROLOGIST\*

HENRY W. WOLTMAN, M.D.\*\*  
ROCHESTER, MINNESOTA

IN THE NOT too distant past, physicians consulted the stars instead of the laboratories. Today laboratory procedures contribute such decisive information that they often constitute the greater part of an examination. But the solution of a neurologic problem can hardly begin without consideration of the body in which it occurs. This immediately calls for a battery of tests. Before we are through we may need the aid of myelography, pneumoencephalography, ventriculography or angiography, electromyography or electro-encephalography, isotope tracer technics or, perhaps soon, ultrasonic topography. If physicians resort to these devices and commit the patient to the laboratory without ascertaining beforehand precisely, by all means available to them, what the problem is, it seems to me that they are using a practice which comes close to consulting the stars.

Only after we physicians have elicited the problem and have carefully evaluated the situation are we in a position to direct the examination and recommend laboratory procedures for the patient. So numerous, so costly and, at times, so hazardous are some of the laboratory procedures that they cause the patient burning anxiety. Unless we physicians school ourselves to become sensitive to these anxieties, we cannot hope to forestall such criticism of medicine as Herbert Spenser leveled at the Parisian legal profession when he spoke of the "brigandage of justice." The principle that the physician acquaint himself with the problem has as a corollary that the physician elicit and analyze the history as an important part of the neurologic examination. Since in a short span of time I cannot encompass all neurologic symptoms, I have selected some which are encountered most often. I have culled from the records of patients no more than is necessary to suggest an answer to

the question, What does the patient's story suggest to the neurologist?

To free myself from the encumbrances of qualifying all I say, it will be necessary at times for me to be dogmatic. However, do not be misled, for each patient presents a different problem and the true picture may be buried deep.

A miner told me that he had become paralyzed by a falling roof, that roentgenograms had shown a fracture of the third thoracic vertebra and that he had had to be catheterized. Examination disclosed loss of sensation and motility below the corresponding level and he kept a urinal in place. However, reflexes were normal, his skin was flawless and moist and our roentgenograms disclosed no evidence of fracture. These findings impressed me as being so remarkable that I thought, contrary to my usual practice, that exploration of the lesion might be justifiable. At the least we might learn something. And we did. The patient accepted our recommendation, and exploration under local anesthesia was scheduled for the next day. Early the next morning the patient sent word that the level of sensory loss had moved. It was down a few inches. Dr. Fred Moersch, who was in the hospital at the time, went in to see him. A little more suggestion, added to the prospect of an imminent operation, caused the level of anesthesia to descend still further, and soon it slipped off the ends of his toes. The patient even got out of bed, and presently he was walking. Indeed, he walked across the street, bought a suit of clothes on credit, and from there continued to walk until he was seen no more.

Some months later a nurse asked me what had become of this patient. She said that she had known him as an orderly in an Army hospital in Siberia, where many paraplegics had been treated. Dr. Moersch learned also that he was the same gentleman who had broken his back repeatedly by falling off freight cars.

This patient might have said, as Anatole France had one of his characters say concerning money, "Monsieur, . . . I have experienced that it is not easy to gain it honestly or even otherwise."

### ATTACKS OF UNCONSCIOUSNESS

Often neurologists are asked to assess attacks of unconsciousness. Usually the question reads, "Is this epilepsy?"

\*Read at the meeting of the Polk County Medical Society, Des Moines, Iowa, September 17, 1952.

\*\*Section of Neurology and Psychiatry, Mayo Clinic.

Perhaps the greatest confusion arises from pursuing such familiar details as biting the tongue and soiling. A conglomerate description of attacks usually is not helpful; a detailed description of individual attacks as related by the patient, himself, and as supplemented by a witness usually is helpful. Such a description may reveal one or two telling facts.

Thus, a man reported that he had been seated and was playing a game of bridge. His right hand was about to play the deuce of spades. He next saw people standing about him and discovered that he was lying on a sofa.

Another patient, a woman, went to the grocer's. While waiting she walked about, picked up an apple and began to eat it. Next she saw the apple under some boxes; it had evidently rolled there; a bite had been taken out of it; it was the apple that she had been eating. She was lying on the floor.

These details reflect clarity of consciousness before the attack, sudden loss of consciousness and the naive discovery by these patients of a change in their environment, all of which are indications of epilepsy.

Sometimes the circumstances suggest syncope rather than epilepsy.

Dolores, a lively 13-year-old girl, had gone to the dentist to watch him fill a cavity in one of her sister's teeth. Then she realized that she was seated in a chair in the anteroom. A year later she was kneeling at the communion rail. As the priest approached her she tipped back her head and advanced her tongue to receive the host. She next saw the priest and her mother in the sacristy where the girl lay on a couch. On saying that the back of her head was sore, she was told that she had tipped over backward like a kneeling statue and had struck her head on the marble floor and that the priest had removed the host from her still protruding tongue.

You will agree with the dentist and the priest, both of whom said, "This is no ordinary faint; take her to the doctor."

In a railroad clerk, aged 43 years, the pattern in some respects was different. He would suddenly find himself in a theater, perhaps seated, perhaps walking about or he would come to the realization that he was eating breakfast a second time or that he was standing in a puddle of water and that his trousers were wet.

These four slightly different stories have been the stories of epileptic seizures. As you know, the manifestations of epilepsy are almost without number, but even when the attack is incomplete, the salient features remain, a precipitate onset and its compelling demand on the patient's attention. A definition of the disorder was recently quoted from Roseman,<sup>1</sup> "a state of continuing dread interrupted by recurring attacks of involuntary behavior."

If among these patients one sees a 32-year-old salesman who jokingly pulls a prospective customer's hat over his eyes, or throws apples at the boss, one is prepared to find other evidence of or-

ganic disease of the brain. In this particular patient it was a tumor of the brain.

Among patients afflicted with recurring attacks of unconsciousness are some whose version of the manner in which they lose consciousness differs from those described so far.

Thus, a railroad brakeman, aged 35 years, had attacks in which he suddenly experienced a sensation in the middle of the thoracic portion of the spinal column like that of a chain running over a sprocket. He then became aware of his racing heart and, since he was usually in bed when this occurred, he jumped out of bed. Within thirty seconds the heartbeat would suddenly return to normal. On three occasions he decided to remain in bed to see what would happen. Consciousness left him "like a ship leaving a harbor" and twice this was followed by a grand mal seizure. The diagnosis was paroxysmal tachycardia.

Among other disorders of the heart that may produce unconsciousness is the following:

A housewife, 59 years old, experienced attacks of choking, lightheadedness, "things going black" before the eyes, and a fading away of consciousness over the period of time it would take "to drive two blocks in a taxi." Such attacks had been precipitated by climbing stairs or walking fast. The diagnosis was chronic rheumatic aortic endocarditis with aortic stenosis.

These stories suffice to illustrate the possible consequences of cerebral anoxia.

Attacks of unconsciousness of still another kind may be seen.

An 18-year-old girl suddenly jumped up from her chair to go into the kitchen. She recalled dimly having landed on a chair and then sliding off to the floor where she lay trembling. "Then," she was told, "I become very strong, fight and tear my hair and sometimes cry." Before this attack she was becoming increasingly irritated with her mother, who was looking at her. The most recent attack came on as she was leaning against the kitchen stove reading a newspaper. She recalled dropping to the oven door, thence to the floor. She learned later that she pounded the floor with her fists, kicked the chair across the kitchen and terrified the visiting school teacher. Preceding this attack she had discovered that the car would not run, the cows were mean and she would have to walk to the party. The diagnosis was hysteria.

Lack of time prevents a discussion of other groups of patients who lose consciousness recurrently. However, I should like to leave the thought that a careful history of an individual attack is more fruitful of information than a general discussion of all attacks combined and also, if you will permit a brash simplification, that in epilepsy the patient become unconscious on his feet, in syncope, unconscious on his knees, and in hysteria, unconscious on his back.

#### HEADACHES

Now let me turn to the subject of headaches.

Tumors occur more frequently on the brain than on any other organ of the body, and patients them-



selves are beginning to realize this. Therefore, when a patient complains of headache, the physician's greatest concern may be whether or not he has a tumor of the brain. More often than not we must learn what we can from his story and on the basis of it, decide how much further to proceed with examinations that may involve surgical procedures. If the patient says that the headache began in recent weeks or months, that it is becoming worse, that it recurs in the same situation, that it often awakens him early in the morning, that it is accentuated or even brought on by coughing, stooping, straining or shaking the head, then an organic intracranial lesion is suspected. If precipitate vomiting, especially before breakfast, is associated, and if the pulse, when felt carefully and continuously for two or three minutes, becomes slow or irregular at times, then the condition may be critical and in all probability caused by a tumor.

Experience is a hard teacher, as the next story indicates.

A man came to the Mayo Clinic for a general examination. A minor complaint of recent onset was unilateral frontal headache whenever, but only if, he coughed or strained. His major concern was his indulgence in fantasies of nude women. This was especially distressing to him since his wife, a refined and good woman, had recently passed away. Further discussion brought out that in planning his trip to Rochester from the West Coast he had had great difficulty in deciding on what line to travel. He deferred his decision until train time, then on the way, changed his mind and trains where the two lines intersected. This seemed like an obsessional neurosis. However, the casual mention of the headaches was important. Soon thereafter the patient died of a glioma of the brain.

A similar complaint was given by a 36-year-old physician who experienced what he appropriately called "straining headaches." These were situated in the right occipitocervical region and never lasted more than fifteen seconds. He had first become aware of them sixteen years before, when he blew a horn in the college band. He died of an ependymoma of the fourth ventricle.

When neurologists hear a patient describe occipital or frontal headaches of great intensity, of sudden onset, of short duration and sudden cessation, we know we are dealing with something sinister. Such "square wave" headaches suggest ventricular obstruction.

I recall a patient whom a former colleague had rushed to the neurologic service at the hospital for emergency treatment after calling me by telephone. When I greeted the patient he was cheerful and said he felt fine. I wondered what had come over my colleague that had caused him to be so concerned about this man. Presently the patient cried out with pain and dizziness. He clapped his hand to his occiput, his head was retracted and violent nystagmus, ataxia and hiccoughing appeared. He, too, had a tumor in the fourth ventricle.

A physician was taken to a hospital in Rochester

from a sanatorium. He feared that the Federal agents were after him, and his wife told me that they were. He was using narcotics because of headaches. Examination disclosed no evidence whatever of organic disease. On the day before he was to be returned to the sanatorium as a drug addict I was called in to see him. He was writhing with pain, his face was bathed with perspiration, he had an obvious squint and his pulse was slow and irregular. After not more than ten minutes the headache and all signs vanished. He was operated on and a cyst of the septum pellucidum was found.

It has been said that a decade passes before new knowledge, gained by a discovery, reaches the public. Eaton and Kvale<sup>2</sup> recently have called attention to crises in which somewhat similar headaches may be a part, namely the paroxysmal hypertension of adrenal tumors. Other extracranial symptoms, such as pounding of the heart, usually accompany the burst of hypertension and sometimes cause the physician to take the patient's blood pressure at the time.

The story of an abruptly beginning, intense pain, usually situated in the occiput, with a rigid neck, slowing and irregularity of the pulse and clouding of consciousness is already familiar to you as that of subarachnoidal hemorrhage.

The more recently acquired, localized vasalgias still give me trouble in arriving at a diagnosis.

A 40-year-old manager of a construction company came to be examined because he had been having headaches over the past seven and a half months and because two of his acquaintances had died of tumor of the brain. These headaches occurred every day. On awakening he felt well, but by 9 o'clock in the morning pain appeared on the left side of his head; this became more and more severe and throbbing as the day wore on. Lifting, jarring, sudden turning of the head, made the pain unbearable. He was a hard worker, began the day earlier than the other workers, and even as manager would help to unload sacks of cement. From there he would run to answer the telephone and then run back to unload cement. The headaches, however, were becoming no worse than they had been. The likelihood that these were of vascular origin was supported by their disappearance for the first time after the patient had been in Rochester for a few days, his first vacation in years, and their response to treatment with histamine. Had his headaches become progressively worse, I should have suspected a tumor as the cause of them.

Since Horton, MacLean and Craig,<sup>3</sup> in 1939, described recurring headaches that usually get the patient out of bed, that are of dramatic intensity, sudden in onset and of few minutes' duration, of headaches that recur in one and the same place, usually the temple, and that often are associated with lacrimation and stuffiness of the nostril and are not associated with vomiting, the concept of histaminic cephalgia has become familiar to you all.

I need but mention the hereditary appearance of headaches that are recurrent over many years, the earliest often having been as severe as the

most recent, that are often unilateral but not always on the same side, as many patients at first insist, that are often preceded by a warning of their impendence and many times climax a period of stress, and you will think at once of migraine. This is a headache that the patient embraces, though he does not like it; it becomes a part of him and he suffers from it. When such a headache is about to leave, he steps aside and regards its flickering embers as he would any other pain. Migraine is a disorder of the person and of the personality.

In some cases excessive use of the eyes may cause headaches. Relative to such headaches Dr. Prangen pointed out to me an important fact: It is the small refractive errors that the patient tries to overcome that bring on such headaches. The large errors he neglects.

Of the various nasal headaches that have been described, those caused by contact have impressed me most.

For eight months a 43-year-old mechanic had been suffering almost constantly from pain that extended from behind the left eye, along the temporoparietal region to the ear. When the nasal septum was pushed aside a sudden burst of identical pain was added and immediate relief followed.

There are many types of pain about the head that may be caused by diseased arteries, nerves or myofascial structures that I must pass over to make one generalization that I have found helpful. When a patient complains of what he calls "headache," but what is more often a sensation of tightness, drawing or burning, usually in the occiput or bregma, that has been present every minute of every day of every week, one may be almost certain that no organic disease is at fault and that the distress is part of a psychiatric problem.

Leaving out of consideration chronic intradural hematomas most post-traumatic headaches follow minor rather than major injuries to the head. Sometimes we are forced to ask ourselves the silly question, "Did this patient have a really serious injury to the head?" The answer is sometimes, but usually not, to be found in the recorded history.

Let me illustrate what I mean by telling you the stories that were given by 2 patients.

A quarryman picked up his lunch pail at noon and walked to a shady spot to eat. Two days later he found himself lying in bed in a strange environment. Feeling a dressing on his head he asked, "What happened; where am I?"

The other patient, a woman, was riding on a street car, when there was a sudden lurch and a suitcase fell off a rack. The corner of the suitcase struck her exactly in the spot to which she pointed and which hurt so much. Immediately after having been hit she lost consciousness.

Actually the quarryman had eaten his lunch and had returned to work and at 3 o'clock that afternoon he had been injured by a flying rock caused by a blast.

His injury was serious, hers was not.

In our attempts to appraise headache we must often be guided entirely by what the patient tells us because the examination usually gives negative results. We need accurate answers to some very specific questions and it is important to be certain not only that we know what the patient says but that he, too, knows what he is saying.

#### PAIN

Tracking down the cause of pain is a common experience for every physician. The trail may be a long one.

In the case of a nurse, aged 53 years, we were on it for thirty-five years. Her complaint was pain and paresthesia in both hands and arms. These could be relieved, "as though a light had been turned off" by elevating the shoulders and moving them forward. Her distress was especially great at night, and she spent many hours sitting hunched up while supporting her elbows with her hands. The posture suggested a so-called outlet syndrome. Bilateral scalenotomy was advised with confidence and its failure to give relief was apprehended with incredulity. Some years later we were more cautious and administered roentgen treatment, which did no good. In the meantime, slight atrophy of the abductor pollicis muscles could be detected but roentgenograms of the wrists showed no abnormality and we remained beguiled by the posture that alone gave her relief. Next we considered the costoclavicular syndrome and ventured resection of the first rib on the right side only. This result was also disappointing. More years passed and with them a few more fibers of the abductor pollicis muscles. It was now certain that at least some fibers of the median nerves were involved. Now, the usual site of injury to the median nerves is at the wrist. Since section of the anterior carpal ligament is a minor procedure, the right one was cut experimentally. The patient reported immediate relief. A year later the left ligament was also cut and again with a successful result.

Usually the carpal tunnel syndrome does not give us so much trouble. We had looked at her for hours, but at no time had we seen, as she sat there with her hands supporting her elbows, that the wrists also were flexed.

Since root pain has resulted in so many ill-advised operations, it is usually considered as a possibility when the cause of pain, in the chest or abdomen, is not clear.<sup>4</sup> Root pains, may I say apologetically, are limited to the area subserved by a spinal nerve, usually one, sometimes also an adjacent or opposite one, rarely several on the same side. Pain that covers a large area on one side, therefore, is not often of radicular origin. Root pain that is caused by tumor characteristically awakens a patient at night and is better during the day. When root pain is of skeletal origin, it is usually worse during the day and on movement and recedes after rest in bed. Compression of a diseased spinal nerve or root may accentuate the pain and often is induced as a test by altering posture. Likewise traction may accentuate the pain and often is induced by flexing the head on the thorax or by flexing the extended lower limb



on the trunk. At one time it was thought that the exacerbation of root pain by coughing and sneezing was brought about by displacement of spinal fluid, but Dr. Eaton, by observing the displacement of contrast medium in the spinal canal, proved that the effect of coughing is one of percussion transmitted from without inward through the column of blood.

Pains of functional origin will be passed over since their consideration would lead us too far afield. They are like the philosopher's description of the universe, a large sphere whose center is everywhere and whose surface is nowhere.

#### PARESTHESIA

Paresthesia is common and its occurrence in a patient these days raises the specter of multiple sclerosis.

A woman, aged 39 years, simultaneously insurance office worker and wife of a farmer, was referred to determine whether attacks of paresthesia and blindness were caused by multiple sclerosis. She described attacks of prickling in the tongue lasting five to ten minutes; prickling of the terminal two phalanges of the right index finger on two occasions; prickling along the line of the left groin for a day, on one occasion, and along the circumference of a circle 2 or 3 inches (5.08 to 7.62 cm.) in diameter in the midportion of the abdominal wall on several occasions. In this case, the brevity and the scattering of the area of paresthesia made serious consideration of an organic disease of the nervous system illogical.

This woman had worked for the insurance company since her marriage, much to her husband's displeasure. She realized, also, as did her neighbors, that her place was in the home and in consequence suffered from compunctions of conscience. Twice or three times daily, while she was at work in the insurance office, her hand, pen and insurance cards would vanish into blank space.

A similar conversion was observed in another woman, who on watching her husband return across the field from work one evening, said to herself, "I hate the sight of you." She promptly lost her vision and came to be cured of blindness.

The paresthesia of multiple sclerosis is not so ephemeral as was that of the young woman who worked for the insurance company.

#### VERTIGO

The word "dizziness" is often used by patients and too often accepted as a true description of the patient's complaint. The words "giddiness" or a "sensation of instability" might be more accurate in many instances of this kind. The neurologist is more impressed by the complaint of vertigo, a sensation of rotation in a certain direction. Its intensity may be measured by the nausea it produces, by the difficulty in remaining upright or even lying in bed, and by the jumping of objects looked at, the result of nystagmus. Often the patient describes this as double or even triple vision. Vertigo is often intensified by turning the head whether the patient be up or in bed. If vertigo is accompanied by noise in an ear or decreased hear-

ing, the source of the disorder is taken to be the end organ of that ear. Severe vertigo is seen so seldom in acoustic tumors that its presence almost suffices to exclude one. Recurrent episodes of vertigo comparable to those experienced in Ménière's syndrome probably are not often caused by lesions of the brain itself. Intense vertigo does occur with such lesions as thrombosis of the posterior inferior cerebellar artery and with tumors of the fourth ventricle. In these conditions objective signs usually are abundant and unmistakable. One might say of such lesions, as Haldane<sup>5</sup> said of anoxia, "It not only stops the machine; it wrecks the machinery." Thus, unless there is good proof to the contrary, the story of repeated attacks of intense vertigo currently suggests to the neurologist a frightening but usually harmless disorder of the labyrinth.

#### CLOSING REMARKS

No story I have told is new to you, for I have talked of attacks of unconsciousness, of headache, of pain, of paresthesia and of vertigo. If you were to ask "What does the story mean?" or "Does this or that happen in so and so?" or "What is the best textbook on clinical neurology?," I should have to answer, "Ask the patient; he is the book in his case. Study him." As Foster Kennedy once remarked in another connection, "We can learn nothing by learning something else."

#### REFERENCES

1. Roseman, E., and Aring, C. D.: Present status of Epilepsy, *Calif. Med.*, **66**:38-44, Jan. 1947, quoted by Bercel, N. A.: Diagnosis and Treatment of Epileptic and Epileptoid Disorders, *J.A.M.A.* **149**:1361-1365 (Aug. 9) 1952.
2. Eaton, L. M. and Kvale, W. F.: The Neurologic Manifestations of Pheochromocytomas: A Study of 25 Cases. Read at the meeting of the American Neurological Association, Atlantic City, New Jersey, May 8 to 10, 1952.
3. Horton, B. T., MacLean, A. R. and Craig, W. McK.: A New Syndrome of Vascular Headache: Results of Treatment With Histamine: Preliminary Report. *Proc. Staff Meet., Mayo Clin.* **14**:257-260 (Apr. 26) 1939.
4. Eaton, L. M.: Pain Caused by Disease Involving the Sensory Nerve Roots (Root Pain): Its Characteristics and the Mechanics of Its Production. *J.A.M.A.* **117**:1435-1439 (Oct. 25) 1941.
5. Haldane: Quoted by Wilson, S. A. K., and Bruce, A. N.: *Neurology*. Baltimore, The Williams & Wilkins Company, 1940, vol. 2, p. 1059.

#### CHICAGO MEETINGS IN MAY

Attendance at the Medico-Military Symposium at Great Lakes Naval Hospital on May 6, 7 and 8 is a means by which medical reservists in any branch of the service can earn retirement points. In addition to a lecture by Eugene Zuckett, of the Atomic Energy Commission, entitled "Where We Stand in 1953," the program includes a panel discussion and several short speeches on medical reserve problems, short talks on civil defense plans and the veterans' care program, papers on the military applications of neuropsychiatry, and demonstrations and explanations of such protective devices as body armor and of new evacuation techniques.

At almost the same time, May 7, 8, and 9, the American Goiter Association is to hold its 1953 meeting at the Drake Hotel, in Chicago. Papers on goiter and other diseases of the thyroid gland will be delivered, and the Great Lakes Division of the U.S. Chapter of the International College of Surgeons will hold a regional meeting May 5 and 6 at the Congress Hotel.

# CANCER DEATHS IN CHILDREN

EDMUND G. ZIMMERER, M.D., M.P.H.  
DES MOINES

BECAUSE MORE THAN 90 per cent of cancers occur in people past middle life, the mistaken impression has grown that cancer in infants and children is of negligible proportions. If we ignore the congenital malformations, birth injuries and such diseases peculiar to infancy as immaturity and hemolytic disease, and the accidents due to external causes to which infants and adults are alike subjected, cancer bids fair to become the chief cause of death in children. As of now, it is exceeded in our state only by pneumonia.

In Iowa during 1951, there were 64 deaths from cancer in children under 15 years of age. More than half of these occurred in children under the age of 5. In the age group from 5 to 9 years, only half as many occurred, and the incidence decreases slightly in the 10 to 14 year group.

In view of the general alarm regarding infantile paralysis, it is interesting to note that there were 8 times as many deaths from cancer as from poliomyelitis in this age group. There were almost

twice as many deaths from cancer as from whooping cough, mumps, scarlet fever, measles, rheumatic fever, influenza, chicken pox and tuberculosis combined.

Although cancer is cancer, whether it occurs in children or adults, childhood cancer is frequently of a different and more virulent character. Most of the reported cancer deaths are due to leukemia, for in childhood the bone marrow and spleen are more frequent sites of malignancy. The eyes, bones, kidney and central nervous system, too, are tissues more commonly involved in children than in adults.

Early detection is difficult because childhood cancers seldom affect the skin, breasts and other accessible areas of the body so that recognition depends on careful examination. Also, the danger signals that should impel examination in children differ from those in adults and are not peculiar to cancer; for instance fever, anemia, weakness and pain may accompany other illnesses as well as cancer.

Dr. W. L. Donahue, of The Hospital for Sick Children, Toronto, Canada, summarizes the signs for which parents should be watchful as follows:

1. The development, in any region or organ, of

## DEATHS UNDER 15 YEARS IN IOWA

1951

(Rates per 100,000 population)

CAUSE OF DEATH	UNDER 5 YEARS POPULATION 281,562		5-9 YEARS POPULATION 226,302		10-14 YEARS POPULATION 199,988		TOTAL UNDER 15 POPULATION 707,852	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
Diphtheria	0	0	0	0	0	0	0	0
German Measles	0	0	0	0	0	0	0	0
Mumps	0	0	1	0.4	0	0	1	0.1
Scarlet Fever	1	0.4	0	0	0	0	1	0.1
Diabetes	1	0.4	0	0	1	0.5	2	0.3
Whooping Cough	2	0.7	0	0	0	0	2	0.3
Appendicitis	3	1.1	0	0	0	0	3	0.4
Chicken Pox	2	0.7	1	0.4	0	0	3	0.4
Measles	2	0.7	0	0	1	0.5	3	0.4
Nephritis & Nephrosis	5	1.8	1	0.4	1	0.5	7	1.0
Poliomyelitis	1	0.4	2	0.9	4	2.0	7	1.0
Influenza	4	1.4	1	0.4	3	1.5	8	1.1
Tuberculosis	6	2.1	1	0.4	1	0.5	8	1.1
Rheumatic Fever	3	1.1	3	1.3	4	2.0	10	1.4
Heart Disease	9	3.2	3	1.3	2	1.0	14	2.0
Cancer	35	12.4	18	8.0	11	5.5	64	9.0
Pneumonia	*94	33.4	4	1.8	1	0.5	99	14.0
Congenital Malformations							317	
Disease peculiar to infancy—Immaturity, hemolytic disease, etc.							499	
Birth Injuries							559	
Accidents (poisoning, violence and other external causes)							147	

\* 73 of these under 1 year

## TYPES OF CANCER CAUSING CHILDRENS' DEATHS IN IOWA BY AGE GROUPS

1951

Int. Code No.	Type	Under 5	5-9	10-14	Int. Code No.	Type	Under 5	5-9	10-14
153	Large Intestine	0	1	0	193	Brain & Cent. Nervous System	6	1	2
154	Rectum	0	1	0	195	Carcinoma of endocrine glands	2	0	0
156	Liver (secondary)	1	1	0	196	Bone	1	0	2
158	Peritoneum	1	0	1	197	Malignancy of connective tissue	1	1	1
160	Nose, Middle Ear	1	0	0	200	Lympho Sarcoma	1	0	3
180	Kidney	4	1	0	201	Hodgkins' Disease	2	0	0
191	Melanoma of Skin	0	1	0	204	Leukemia	13	11	2
192	Eye	2	0	0			35	18	11



a swelling or enlargement that cannot be explained on the basis of an injury.

2. The persistence of such swelling beyond a reasonable time.

3. Reluctance or inability of a child to perform acts or movements that he was formerly able to do with ease.

4. Periodic episodes of illness occurring with increasing severity and frequency.

He points out that any of these signs may be due to a number of causes other than malignancy, but in any event, suggest a thorough medical investigation.

Even though cancer is essentially a disease of people past middle life, it must be kept constantly in mind in the diagnosis of obscure conditions in infants and children.

## THE FUTURE OF THE YOUNG DIABETIC

ROBERT L. JACKSON, M.D.  
IOWA CITY

DIABETES MELLITUS in children and young adults during the pre-insulin era was a severe and rapidly progressive disease. After the discovery and introduction of insulin thirty years ago, it became possible to keep the diabetic child alive, and as additional information concerning the disease accumulated, better methods of treatment evolved. However, during the early years of this century, basic studies were carried out providing knowledge that was applied after insulin was discovered. Advances in the field of nutrition, refinements in the handling of acute complications such as acidosis and coma, introduction of refined and prolonged-acting insulin preparations, and the discovery of potent antibacterial agents with which to combat intercurrent infections, are all important factors which have combined to increase the life expectancy of the diabetic child.

As the survival period of juvenile diabetics gradually lengthened, degenerative vascular changes were encountered with increasing frequency, until today a high percentage of young adults who have been diabetic since childhood find themselves severely handicapped by crippling vascular disease. Therefore, it appears obvious that, although great progress has been made in the treatment of childhood diabetes, present day methods have failed to prevent the development of chronic degenerative vascular changes late in the course of the disease. The question naturally arises as to whether or not these changes represent merely a complication of the deranged metabolism and as such are amenable to a better degree of control, or whether or not the accelerated vascular damage is a part of the diabetic process, a concomitant of the disease and, therefore, an inevitable process which no known method of treatment will prevent. This is an important problem because if the latter view is correct, the patient might well

be spared many of the restrictions necessarily imposed in an effort to maintain good control. On the other hand, if control of diabetes will retard or avert progressive and hopeless degenerative changes, then a greater effort should be made to attain and maintain a physiologic level of control. That the pendulum is swinging toward the more hopeless outlook is attested by the number of physicians who advocate less restrictive measures for the treatment of the disease. As yet sufficient information is not available to evaluate properly the outcome of either method. To determine whether the vascular damage is a manifestation of the disease itself or a complication resulting from non-control, it is necessary that a large group of juvenile diabetic subjects, who have had their disease well controlled, be observed for long periods. It is also essential that definite criteria be established to define what is meant by various degrees of control.

We must keep constantly in mind the fact that the vast majority of diabetic subjects who have had their disease for over twenty-five years have not had modern diabetic management for over fifty per cent of their diabetic lives. It was only twelve years ago that we reported our present regimen of therapy which made it possible to attain and maintain good control of the disease if the child was treated early. Many clinicians have raised the question of the practicability of our regimen of therapy which aims at keeping the diabetic child essentially free from glycosuria and insulin reactions by administering accurate doses of specific types of insulin in relationship to the intake of a complete diet adjusted to compensate for variations in physical activity. The most notable apparent effect of prolonged hyperglycemia is evidenced by the difference in response between patients who recently have become diabetic and those who have remained glycosuric for some time before good control is attempted. The latter patients have a much narrower zone of stability and are definitely more difficult to control than patients whose disease was well controlled soon after the onset of the disease. The use of more frequent small injections of insulin allows a greater degree of safety and produces a feeling of security on the part of the mother that she can control the situation, especially during periods of infection. It is my impression that many physicians, dealing primarily with adult diabetics, tend to place too much emphasis on the desirability of reducing the number of injections of insulin. Parents' willingness to make some added effort in order to give their children every opportunity to conserve their health may be underestimated. Although our regimen may be somewhat difficult at first, the child and his parents learn a great deal about diabetes, and it is possible to simplify the program gradually. At present we are maintaining good control in many patients using only two injections of insulin each day.

There is almost universal agreement that the diet

of the child with diabetes mellitus should be essentially the same as for normal children. Controversy exists as to whether or not the diet should be given quantitatively and at specific periods during the day, or whether the child should simply be allowed to eat a supervised diet. All agree that insulin reactions are dangerous and must be avoided to prevent irreparable damage to the central nervous system.

The experienced clinician fully recognizes the importance of psychological adjustment of the patient. Most recent studies show that diabetes enforces a way of life to which a child and his family will react according to pre-existing, yet non-specific patterns. Diabetes seems to reinforce existing problems. To maintain control of his disease, the diabetic patient early in the course of his disease must establish habits of living which provide regularity in food intake, physical activity and rest, and avoid emotional crises. Consequently, the older the patient is when he develops his disease the more difficult it is to change undesirable habits of living and maintain good control. Not only the child, but the family and the community, need to be educated if the patient is to make a good adjustment to his disease. To a great extent, the success we have had with our diabetic patients has resulted from an attempt to carry out such an educational program. The prognosis of the disease is much more dependent upon good environmental care of the child than on variation in severity of the disease.

The recent report of White and Waskow suggests that patients free from degenerative changes after twenty years of the disease were the few who had maintained the best control by their standards. Our recent study of patients who have had their disease ten or more years proves the contention of White and Waskow and clearly shows that the degree of control, as well as the duration of the disease, is an important factor influencing degenerative changes and that good control will possibly prevent degenerative changes.

The diabetic clinic of the Pediatric Department at the State University of Iowa is one of the largest in the world, and the active cooperation of the physicians in the state with the research studies directed at this clinic has made possible many of the advances in the treatment of children with this metabolic disorder. Our present knowledge makes it not only possible but practical to maintain a high degree of control in children living in well-adjusted homes. Until more knowledge concerning the pathologic physiology of the disease is available, good control offers the best means of delaying or averting degenerative changes. It is dangerously easy to undertake the treatment of the diabetic child with insulin and satisfy the child and his parents. Our recent studies have shown that, even though the child is growing normally and avoiding the more pronounced complications of diabetes, such as episodes of ketosis and acidosis,

he may eventually develop serious degenerative changes which at present we have no known way of correcting.

There is reason to hope that we may find more specific means of preventing these vascular degenerations. Lipid metabolism as well as carbohydrate metabolism is being emphasized in the study of diabetic patients because of the known relationship between altered lipid metabolism and atherosclerosis. We are undertaking further studies of the interrelationship of degree of diabetic control, level of serum lipids and vascular degeneration. Our present studies have shown that almost all patients who maintain excellent or good control have a relatively constant serum cholesterol level within the normal range; whereas patients who achieve only fair to poor control usually show marked fluctuations in serum cholesterol values. After the period of initial regulation, the level of serum cholesterol appears to change with the degree of control of the disease, not as an immediate response but as a result of weeks or months of a given degree of control. An optimistic, rather than a pessimistic, outlook is warranted. We are all looking forward to the day when we will know the cause of the disease and how to prevent it.

---

## CANCER INCIDENCE AND MORTALITY

FREDERICK W. MULSOW, M.D.

CEDAR RAPIDS

MORE EXACT information regarding the incidence and mortality of all forms of cancer is much needed but difficult to secure. The correct diagnosis and origin of the cancer growth are often established in hospitals or clinics at some distance from the home of those affected. In some cases the correct diagnosis is first made at the necropsy or after extensive surgery often followed by death. In such cases the death is reported at the hospitals, not at the home of the patient, whether in the next county or the next state. Therefore, it is almost impossible to obtain exact data regarding the local mortality or incidence of many forms of cancer.

Several years' observation of the incidence and mortality of cancer in Cedar Rapids indicates that most cases of cancer are recognized here, although certain forms are referred to institutions elsewhere for special treatment or surgery. Other cases first recognized as cancer in institutions away from home return for further treatment or die here later. It has seemed worthwhile, therefore, to record some observations regarding the incidence and mortality of cancer in Cedar Rapids, which serves a community of about 100,000.

The data regarding the incidence of cancer in Cedar Rapids have been obtained from the records of Mercy Hospital, St. Luke's Hospital, Linn County Tumor Clinic and Dr. Arthur W. Erskine's office. For purposes of comparison, cases of cancer



seen at the Tumor Clinic of University Hospitals, Iowa City, are presented in an accompanying table. They are more numerous and represent a wider source.

The mortality figures for cancer in Cedar Rapids were obtained from recorded death certificates at the City Hall and County Court House. It is well known that death certificate records are not altogether reliable, especially when there has not been a biopsy examination or necropsy. This limitation is of particular importance in some of the more common forms of cancer, such as those of the liver, pancreas, stomach, colon, lung, ovary and brain. Hence it was necessary to examine hospital records and consult the attending physician in many cases to obtain an accurate diagnosis. Our study indicates that cancer of the stomach was diagnosed most often on insufficient data with cancer of the ovary second.

The reported incidence of the commoner forms of cancer varies. Most text books, upon little definite evidence, report that cancer of the stomach is the most frequent. One textbook<sup>1</sup> reports in one place that cancer of the skin is the commonest form, but in a later chapter lists cancer of the stomach as commonest form. A well known surgeon<sup>2</sup> reports that cancer of the breast is the most frequent form of cancer in women. Another experienced surgeon<sup>3</sup> from the same clinic reports that cancer of the uterus is the most frequent form in women. A third prominent surgeon<sup>4</sup> reports that cancer of the lung is the commonest form in men. It seems evident that men experienced in the study of cancer are not in agreement on this point.

Table 1 indicates that cancer of the large intestine

TABLE 1  
CANCER DEATHS IN CEDAR RAPIDS 1947-51

Location	Number
Large Intestine .....	143
Breast .....	81
Stomach .....	60
Lung .....	56
Uterus .....	49
Prostrate .....	47
Pancreas .....	43
Leukemia .....	39
Sarcoma .....	34
Ovary .....	31
Skin .....	9
Others .....	157
5 Year Total .....	749

tine was by far the commonest cause of death from cancer in Cedar Rapids during the past five years. The large majority of these were proved by microscopic sections. Cancer of the breast was second most common, and cancer of the stomach was third. About 20 per cent of those deaths attributed to cancer of the stomach were not proved by microscopic examination. It may also be noted that cancer of the pancreas, cancer of the ovary, and leukemia were among the ten commonest causes of death, but were not among the ten commonest forms of cancer seen in Cedar Rapids during the

last three years or at the University Hospital at Iowa City during the last five years.

Table 3 shows that malignant tumors of the brain are among the ten forms observed most often at

TABLE 2  
CANCER CASES SEEN IN CEDAR RAPIDS 1949-51

Location	Number
Skin .....	277
Large Intestine .....	220
Breast .....	210
Uterus .....	170
Bladder .....	93
Prostate .....	89
Sarcoma .....	71
Stomach .....	70
Lung .....	56
Ovary .....	52
Leukemia .....	41
Pancreas .....	32
Others .....	186
3 Year Total .....	1561

the Tumor Clinic of University Hospitals. Such is the case because of the fact that cases of brain tumor from all over the state are sent there for diagnosis and treatment. It appears that cancer

TABLE 3  
UNIVERSITY HOSPITAL CASES 1947-51 (5 YEARS)

Location	Number
Uterus .....	691
Large Intestine .....	489
Skin .....	440
Prostate .....	385
Breast .....	351
Bladder .....	303
Lung .....	219
Stomach .....	214
Brain .....	169
Sarcoma .....	140
Leukemia .....	101
Ovary .....	84
Pancreas .....	83
Others .....	1026
5 Year Total .....	4656

of the uterus and prostate are also seen there more often than some other types, for the same reasons.

Cancer of the skin was the most frequent form seen in Cedar Rapids (Table 2). The majority of these skin cancer cases were seen in Dr. Erskine's office. Many of the patients came from many miles away. Cancer of the stomach is listed in many texts as the commonest cause of death from cancer, but it ranks eighth in frequency in Cedar Rapids and at the University Hospitals. Cancer of the bladder ranks fifth in frequency in Cedar Rapids and sixth at the University Hospital, but is not among the ten leading causes of death from cancer in Cedar Rapids. Cancer of the breast ranks second as the cause of death and third in frequency in Cedar Rapids. Since few of these cases are from outside of the Cedar Rapids community, these statistics should be representative of this part of Iowa. Cancer of the ovary ranks tenth as the cause of death and frequency in Cedar Rapids.

## CONCLUSIONS

The distribution by types of new cases of cancer seen in Cedar Rapids during the last three years is nearly the same as at the Tumor Clinic at the State University Hospitals during the past five years, although three times as many cases were seen in Iowa City. The exceptions are that relatively more cases of cancer of the skin were observed in Cedar Rapids than were found at the University Hospital or in other parts of the state, and many more cases of cancer of the uterus, prostate and bladder, and more brain tumors were found at the University Hospital. The reasons for these differences have been previously discussed. Similar studies over a longer period of time and from other regions will be necessary for more accurate information concerning the incidence and mortality of the common forms of cancer.

## BIBLIOGRAPHY

1. Ackerman, L. V., and del Regato: Cancer: Diagnosis, Treatment and Prognosis. St. Louis, C. V. Mosby Company, 1947.
2. Harrington, S. W.: Results of surgical treatment of unilateral cancer of the breast in women. J.A.M.A., 148: 1007-1011 (March 22) 1952.
3. Ferris, D. O.: Carcinoma of the Uterus, in Collected Papers Mayo Clinic. 41:177-180, Philadelphia, W. B. Saunders Company, 1950.
4. Graham, E. A.: Symposium on clinical surgery; problem of bronchiogenic carcinoma. S. Clin. North America, 30:1259-1277 (October) 1950.

## LEPTOSPIROSIS DUE TO LEPTOSPIRA POMONA: REPORT OF FIRST CASE IN IOWA AND A REVIEW OF THE LITERATURE

ERLING LARSON, M.D.\*  
DES MOINES

LEPTOSPIROSIS is a world-wide problem<sup>1,2</sup> with over thirty distinct pathogenic strains described. Leptospirosis was first recognized in the United States by Stimson in 1905.<sup>3</sup> This case later proved to be due to *L. icterohaemorrhagiae*, the etiological agent of spirochetal jaundice (Weil's disease), with the brown rat (*Rattus norvegicus*) as the carrier. Meyer<sup>4</sup> in 1938 reported the first case of leptospirosis other than Weil's disease. This was canicola fever due to *L. canicola*, with the dog as the primary animal reservoir. In 1948 Baker and Little isolated from dairy cattle in New Jersey a third type, *L. pomona*,<sup>5</sup> the etiologic agent of Swineherd's disease, which is also transmitted by hogs and less commonly by horses and sheep. Recently three other pathogenic strains have been isolated in this country: *L. grippotyphosa* (swamp fever),<sup>6</sup> *L. autumnalis* (Fort Bragg fever, autumnal fever),<sup>7</sup> and *L. bataviae* (Indonesian Weil's disease).<sup>8</sup> Hosts for these three have not yet been identified in this country, but infected cattle, dogs, horses,

and field mice have been encountered elsewhere.<sup>9</sup> Recognition of leptospiral infections in the United States has not been common. Until recently only 228 major cases were reported, usually Weil's disease.<sup>10</sup>

The clinical picture of Leptospirosis<sup>1, 11</sup> is widely variable, but infections with the various strains differ primarily in severity of symptoms. The onset is usually sudden with fever, malaise, intestinal upsets and myalgia. Structures most commonly involved include the meninges,<sup>12, 13</sup> kidneys, eyes and liver. In each instance man is infected by contact with infected animals or their excreta.

## CASE REPORT

E. Y., a fifty-three year old white, male painter, fell into the water while fishing on June 5, 1952. He suffered an abrasion to his left leg. Two days later he developed the initial symptoms of a "common cold," followed the next day by anorexia and malaise. On the third day of illness, mild chills, temperature of 105.2°F, severe nausea and profuse diaphoresis occurred. The fourth and fifth days of illness were characterized by a gradual decline of temperature, diaphoresis, nausea, anorexia, weakness and malaise. Five hundred thousand (500,000) units of penicillin were administered intramuscularly on the third, fourth and fifth days of illness. For the next three days he noted only weakness and malaise. On the ninth day of illness the temperature rose to 103°F and extreme nausea, anorexia, generalized aching, malaise, and severe headache developed. Another 500,000 units of penicillin were administered. The symptoms gradually subsided over the next two days. On the twelfth day of illness he returned to work. A febrile relapse occurred on the sixteenth day, with the temperature ranging from 97.8°F—102°F for the next 21 days. The patient entered the Veterans Administration Hospital, Des Moines, Iowa, on the 37th day of illness. A 15 pound weight loss had occurred.

The past history revealed only three significant findings (1) a known hypertension of four years duration (2) a known cardiac murmur for two years and (3) a primary luetic infection in 1918.

Physical examination revealed a 130 pound white male. The temperature was 99°F, pulse 80, and blood pressure 175/100. The heart was not enlarged, but a loud harsh, grade IV (Levine) murmur was heard over the entire precordium, most marked at the apex. There was no icterus, nuchal rigidity or palpable adenopathy. Neurological examination was within normal limits.

Initial laboratory examinations revealed a white blood count of 8,700 per cubic millimeter with 74 per cent neutrophils. Red blood count and hemoglobin were normal. The blood Kahn was 3+ with 3 Kahn units, and the Kolmer was doubtful. The following studies were normal: erythrocyte sedimentation rate; urinalysis; total protein, A/G ratio; agglutinations for typhoid, paratyphoid, and brucella; heterophile antibody; Weil-Felix re-

\*From the Department of Internal Medicine, Veterans Administration Hospital, Des Moines, Iowa.

Sponsored by the Veterans Administration with the approval of the Chief Medical Director. Statements and conclusions by the author are a result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.



action; blood cultures and stool examinations for ova and parasites. Liver function studies were normal with the exception of an elevation of the total serum bilirubin to 1.4 mg. per cent and a direct reading of 0.4 mg. per cent.

He continued to have intermittent low grade fever to 99.6°F for ten days. Because of the positive blood serology, a spinal fluid examination was done. The cell count was 129 per cubic millimeter with 87 per cent lymphocytes, 10 per cent large mononuclears and 3 per cent polymorphonuclears. The proteins were 57 mg. per cent, serology negative, sugar and chloride normal and no increase in globulin. Blood and spinal fluid specimens were sent for specific viral, rickettsial, and spirochetal studies.\* The patient was seen by the consulting neurologist, who felt this represented an encephalitis of undetermined etiology and because of the leucic history and positive blood serology should receive 12,000,000 units of penicillin. Progress spinal fluid examinations and blood serologies were done during the course of treatment, which was started July 24, 1952, and continued for 20 days. Eight days after the start of treatment, the spinal fluid cell count had fallen to 54 per cubic millimeter with 8 per cent large mononuclears and 92 per cent lymphocytes. At the conclusion of therapy the cell count was 15 per cubic millimeter with 1 polymorphonuclear cell and 14 lymphocytes. The spinal fluid serology remained negative. There was no change in the blood serology. He was discharged asymptomatic August 18, 1952.

After discharge the results of the special blood and spinal fluid examinations were received. Serial examinations for the complement fixing antibodies of lymphocytic choriomeningitis and mumps, and neutralization tests for herpes simplex were negative. The microscopic agglutination titer for leptospirosis pomona was 1:400 on July 21, 1952 and had fallen to 1:100 on August 8, 1952.

The patient was recalled for progress examination in October, 1952. With the exception of a postinfectious asthenia and occasional low grade fever, he remained asymptomatic. A spinal fluid examination showed a cell count of 3 per cubic millimeter with normal sugar, protein and chlorides and a negative serology. A positive blood serology persisted.

#### LEPTOSPIRA POMONA

Clayton and Derrick<sup>14</sup> demonstrated in 1937 in Australia that "Seven Day Fever" was actually a leptospiral infection. The causative organism was later named *Leptospira pomona*.<sup>15</sup> Gsell<sup>16</sup> (Switzerland) in 1944 proved the leptospiral etiology of Swineherd's meningitis, later also proven to be *L. pomona*. This strain of leptospira has an extensive animal reservoir in this country.<sup>17</sup> Human cases have been described in Texas,<sup>18</sup> Minnesota,<sup>17</sup> Georgia,<sup>7</sup> Pennsylvania<sup>10</sup> and Alabama.<sup>19</sup> All were isolated cases except for an epidemic in Alabama,

where 50 swimmers had shared a slow moving creek with dead hogs. Serologic animal surveys made three months later revealed positive sera in hogs, cows, horses and mules. In Iowa,<sup>20</sup> infection in animals has been recognized in swine, cattle, horses and sheep. Swine are apparently the true reservoir of the disease. They generally present a low sensitivity to the infection, act as true carriers, and once infected, excrete the organisms for months or for life.<sup>21</sup> In Iowa the clinical symptoms recognized in swine have been limited to abortion.<sup>20</sup> Swine have also been reported to show inability to stand, rigidity and spasm,<sup>1</sup> and gastrointestinal disturbances with anorexia, the disease lasting less than 14 days and seldom resulting in death.

In cattle the disease is characterized by hemoglobinuria and hemoglobinemia. The "red water" may last only one or two days and blood may appear in the milk. Cows usually recover, but the mortality in calves is high. Apparently healthy cattle may also carry the disease.<sup>21, 22</sup>

Leptospira are of the order Spirochaetales. They can be cultured from the blood, urine, or cerebrospinal fluid of patients during the first ten days of illness.<sup>1, 23</sup> The organisms are delicate, tightly coiled, and hooked at one or both ends. Dark field microscopy reveals two types of motility; (1) whirling on the long axis, and (2) a fairly rapid forward or backward motion.<sup>24</sup> Culture media must include sera or other body fluid, and subculturing is necessary every 10 to 15 days.<sup>24</sup> The organisms will not survive in undiluted milk,<sup>21</sup> thus greatly reducing the public health hazard. However, in milk diluted 1:40 or 1:80 with tap water, the survival time is sixty days. Spilled milk during rainy periods provides excellent medium for continued growth.<sup>21</sup> These organisms will survive three to nine days in natural river water or over 30 days in alkaline tap water if food is provided.<sup>25</sup> The survival time of the organism is adversely affected by (1) high or low pH, (2) bacterial contamination, (3) high salt content, (4) temperature change, (5) elemental iodine and commercial water purifiers. It shows a lower resistance to disinfectants than most nonsporulating pathogenic bacteria.<sup>25</sup>

#### CLINICAL MANIFESTATIONS

This is primarily a disease of the young,<sup>1</sup> predominantly males and particularly those occupationally or accidentally exposed to hog or cattle urine. The organisms may penetrate the intact skin, but infection is most common by way of cuts or abrasions on the hands or feet.<sup>21</sup> The conjunctivae or nasal mucosa are less commonly the portal of entry.<sup>24</sup> The disease shows a marked seasonal variation, the majority of cases occurring during the late summer months.

In reviewing 453 reported cases,<sup>1, 19, 21, 24</sup> the following picture was most often noted. Two to ten days after exposure there is an abrupt onset of chills, fever, headache, myalgia, stiff neck, and

\* Army Medical Service Graduate School, Army Medical Center, Washington 12, D. C.

weakness. Over 50 per cent have prodromal symptoms for 24-48 hours, characterized by malaise and headaches. Muscular pain is most common in the calves, deltoids and lumbar region, and these areas may be tender to palpation. The temperature will usually be greater than 102°F at some time during the illness, and temperatures as high as 105.5°F have been reported. Relative bradycardia, although not a constant finding, has been described in the European literature.

The disease may be divided into two phases. During the three to six day first phase, a plateau type of temperature curve is evident. After a few days' remission, a secondary rise in temperature occurs. Meningismus may be seen during the first phase, though the typical signs of meningitis are more common in the second. Conjunctivitis and photophobia may occur, usually in phase one. Alimentary disturbances such as pain, nausea, vomiting, constipation, and diarrhea may be present. Renal involvement, cough, pulmonary congestion and arthritis have been described. Transient maculopapular, morbilliform or urticarial skin lesions may be seen. Hepatomegaly, splenomegaly, and jaundice are rare. The patients may appear only slightly affected, or severely ill and apathetic or overstimulated.<sup>1</sup> The illness lasts five to 15 days. One attack is thought to confer immunity.<sup>21</sup> Sequelae are apparently uncommon, with the exception of febrile relapses and postinfectious asthenia.<sup>1</sup> Iridocyclitis is generally a late complication of leptospirosis,<sup>26, 27</sup> occurring three weeks to one year after the acute systemic infection (average four to eight months). The prognosis is good. Only one death has been reported.<sup>1</sup>

#### LABORATORY FINDINGS

The routine blood and urine tests are usually normal. Renal involvement may be manifested by temporary albuminuria and occasional microscopic hematuria and pyuria.<sup>1</sup> There is a tendency to leukopenia and relative neutrophilia during the first week of illness, followed by a normal white blood count with relative lymphocytosis.<sup>1</sup> False positive serologic reactions are rare.<sup>24</sup> The erythrocyte sedimentation rate is elevated. The serum proteins may show an elevated globulin fraction.<sup>1</sup> During the first week of illness the cerebrospinal fluid may show only increased pressure, but during phase two the cell count is elevated, usually reaching its peak between the eighth and fifteenth day,<sup>1, 24</sup> rarely revealing more than 300 cells. Early there is an equal number of lymphocytes and polymorphonuclear cells, but later there is a predominance of lymphocytes. Other spinal fluid examinations reveal a slightly elevated serum protein, negative Wassermann, and normal glucose and chlorides.<sup>1, 24</sup> During the first week the organisms may be isolated from blood, cerebro-spinal fluid or urine, and demonstrated by culture and dark field technique. During the second week the agglutination (1:400 diagnostic)<sup>1</sup> and complement fixation tests<sup>28, 29</sup>

become positive. Cross agglutinations may occur with *L. icterohaemorrhagiae* and *L. canicola*, but at lower titers and with incomplete agglutination. Agglutinins in the spinal fluid are at lower titers. Detectable levels may persist for years in the blood.<sup>29</sup>

#### TREATMENT

Compared to an untreated controlled series,<sup>30</sup> in 67 treated cases of leptospirosis, using chloramphenicol, aureomycin, penicillin, terramycin and streptomycin, and cortisone and aureomycin, no effect was noted on fever, duration of illness, renal involvement, liver function tests, or central nervous system manifestations. There was no apparent effect on the leptospiremia. Penicillin, streptomycin, aureomycin, chloramphenicol and terramycin have all been successful in experimental leptospirosis.<sup>18, 24, 31</sup> Penicillin,<sup>18</sup> aureomycin<sup>1, 32</sup> and terramycin<sup>1, 33</sup> have been said to be of value clinically, but the self-limited course of the disease makes evaluation difficult. Penicillin is apparently not as efficacious as are the broad spectrum antibiotics.<sup>24, 32, 33</sup>

#### DIFFERENTIAL DIAGNOSIS

Leptospirosis *pomona* must be differentiated from Q-fever, brucellosis, infectious mononucleosis, and the lymphocytic meningitis associated with mumps, as well as lymphocytic choriomeningitis. The fact that the spinal fluid cell count is seldom over 300 aids in the differentiation from mumps and lymphocytic choriomeningitis. It must also be differentiated from acute poliomyelitis because of age predilection, seasonal occurrence, and meningeal and muscular symptoms.

#### COMMENT

Leptospirosis *pomona* is endemic in the United States and the state of Iowa. A number of factors have prevented recognition, including (1) lack of awareness of the disease and its clinical features, (2) inability to demonstrate the organism on "routine" bacterial cultures, (3) similarity of the clinical picture to neurotrophic virus infections and so called "grippe," (4) lack of readily available diagnostic laboratories, and (5) the self-limited nature of the disease.

Laboratory facilities are available for performance of the agglutination and complement fixation tests at the Communicable Disease Center, United States Public Health Service, Chamblee, Georgia, and at the Veterinary Division of the Army Medical Service Graduate School, Washington, D. C. Information concerning submission of specimens may be obtained by communicating with one of those centers.<sup>35</sup>

ACKNOWLEDGMENT—To Joseph Alli, Ph.D., Bacteriologist, Laboratory Service, Veterans Hospital, Des Moines, for assistance in the collection and interpretation of the many diagnostic studies.

#### BIBLIOGRAPHY

1. Gsell, O.: *Leptospirosen*. Bern, Switzerland Medizinischer Verlag, Hans Huber, 1952.



2. Walch-Sordrager, B.: Les leptospiroses, *Quart. Bull. Health Organ., League of Nations*, 8:143-386 1939.
3. Molner, J. G., Meyer, K. F., and Raskin, H. A.: Leptospirosis Infections, *J.A.M.A.* 136:814-19 (March 20) 1948.
4. Gochenour, W. S., Jr.: Public Health Aspects of Leptospirosis, *Mil. Surgeon*, 110:265-269 (April) 1952.
5. Gochenour, W. S., Jr., Hager, R. H., and Wetmore, P. W.: Antigenic Similarity of Bovine Strains of Leptospirae (United States) and Leptospira Pomona, *Proc. Soc. Exper. Biol. and Med.* 74:199-202 (May) 1950.
6. Spain, R. S., and Howard, G. T.: Leptospirosis Due to Leptospira Grippotyphosa, *J.A.M.A.* 150:1010-1012, (Nov. 8) 1952.
7. Gochenour, W. S., Jr., Smadel, J. E., Jackson, E. B., Evans, L. B., and Yager, R. H.: Leptospirosis of Fort Bragg Fever, *Federation Proc.* 11:469 (March, pt. 1) 1952.
8. Gochenour, W. S., Jr., Yager, R. H., Wetmore, P. W., Evans, L. B., Byrne, R. J., Alexander, A., and Hightower, J.: Indonesian Weil's Disease in Puerto Rico and the United States, *Federation Proc.* 10:408-9 (March, pt. 1) 1951.
9. Bohl, E. H., and Ferguson, L. C.: Leptospirosis in Domestic Animals, *J. Am. Vet. M. A.* 121:421-28 (Dec.) 1952.
10. Krouse, T. B., and Sigel, M. M.: Leptospirosis Meningitis, *Indust. Med.* 21:121-23 (March) 1952.
11. Rosenberg, B. L.: Canicola Fever, *Am. J. Med.* 11:75-91 (July) 1951.
12. Beeson, P. B., and Hankey, D. D.: Benign Aseptic Meningitis as a Manifestation of Leptospirosis Infection, *Tr. A. Am. Physicians* 63:130-35, 1950.
13. Cargill, W. H., Jr., and Beeson, P. B.: The Value of Spinal Fluid Examination as a Diagnostic Procedure in Weil's Disease, *Ann. Int. Med.* 27:396-400 (Sept.) 1947.
14. Clayton, G. E. B., Derrick, E. H., and Cilento, R.: The Presence of Leptospirosis of a Mild Type (Seven Day Fever) in Queensland, *M. J. Australia* 1:647-654 (May 1) 1937.
15. Derrick, E. H.: Leptospira Pomona, *M. J. Australia* 1:431 (April 11) 1942.
16. Gsell, O.: Meningitis, Spirochetel, Origin of Swineherd's Disease, *Bull. Schweiz. Akad. d. med. Wissensch* 1: 67-76, 1949.
17. Spink, W. W.: The Human Leptospirosis Due to Leptospira Pomona. Report of First Case in Minnesota, *Minnesota Med.* 35:525-28 (June) 1952.
18. Coffey, J. H., Dravin, I. and Dine, W. C.: Swineherd's Disease (Aseptic Meningitis) Due to Leptospira Pomona, *J.A.M.A.* 147:949-50 (Nov. 3) 1951.
19. Schaeffer, M.: Leptospirosis Meningitis, Investigation of a Water-Borne Epidemic Due to L. pomona, *J. Clin. Investigation* 30:670-1 (June) 1951.
20. Bennett, P. C.: Iowa Veterinary Diagnostic Laboratory, Personal Communication.
21. Kirschner, L., Miller, T. F., and Garlick, C. H.: Swineherd's Disease in New Zealand. Infection with Leptospira Pomona in Man, Calves, and Pigs. *New Zealand M. J.* 51: 98-108 (April) 1952.
22. Wellington, N. A. M., Stevenson, W. J., and Ferris, A. A.: Endemic Leptospirosis in Victoria, *M. J. Australia* 11:15-18 (July 7) 1951.
23. Gsell, O.: Swineherd's Disease: Etiology, Microbiology, Rev. de path. Comparaee 49:407-17 (July) 1949.
24. Beeson, P. B., and Hankey, D. D.: Leptospirosis Meningitis, *Arch. Int. Med.* 89:575-83 (April) 1952.
25. Chang, S. L., Buckingham, M., and Taylor, M. P.: Studies on Leptospira Icterohaemorrhagiae IV—Survival in Water and Sewage. Destruction in Water by Halogen Compounds, Synthetic Detergents, and Heat, *J. Infect. Dis.* 82: 256-66 (May-June) 1948.
26. Beeson, P. B., Hankey, D. D., and Cooper, C. F., Jr.: Leptospirosis Iridocyclitis: Evidence of Human Infection with Leptospira Pomona in the United States, *J.A.M.A.* 145:229-30 (Jan. 27) 1951.
27. Gsell, O., Rehsteiner, K., and Verrey, F.: Iridocyclitis as Late Sequel of Leptospirosis Pomona (Swineherd's Disease) Agglutinins and Lymphocytes in Aqueous Humor, *Ophthalmologica* 112:320-334 (Dec.) 1946.
28. Yager, R. H., Gochenour, W. S., Jr., Warner, A. R., Wetmore, P. W., and Hall, H.: Complement Fixation in Diagnosis of Human Leptospirosis, *Federation Proc.* 10:424-25 (March) 1951.
29. Randall, R., Wetmore, P. W., and Warner, A. R., Jr.: Sonic-Vibrated Leptospirae as Antigens in the Complement Fixation Test for the Diagnosis of Leptospirosis, *J. Lab. and Clin. Med.* 34:1411-15 (Oct.) 1949.
30. Hall, H. E., Hightower, J. A., Rivera, R. D., Byrne, R. J., Smadel, J. E., and Woodward, T. E.: Evaluation of Antibiotic Therapy in Human Leptospirosis, *Ann. Int. Med.* 35:981-98 (Nov.) 1951.
31. Meyer, K. F., and Brunner, K. T.: Chemotherapy and Immunity in Leptospira Canicola and L. Icterohaemorrhagiae Infections, *Acta trop.* 7:1, 1950.
32. Whitehouse, F. W.: Canicola Fever: Report of a Case in Which Aureomycin and Penicillin were used, *J.A.M.A.* 148:47-49 (Jan. 5) 1952.
33. Liebowitz, D., and Schwartz, H.: Leptospirosis Infection in Man Treated with Terramycin, *J.A.M.A.* 147:122-3 (Sept. 8) 1951.
34. Broom, J. C.: Leptospirosis in England and Wales, *Brit. M. J.* 11:689-97 (Sept. 22) 1951.
35. Leptospirosis in Man and Animals, Editorial, *J.A.M.A.* 150:1406-7 (Dec. 6) 1952.

State University of Iowa  
College of Medicine

# CLINICAL PATHOLOGIC CONFERENCE

January 21, 1953

## SUMMARY OF CLINICAL FINDINGS

THIS 23 year old white female was first seen at University Hospitals in 1949 because of sticking pain in the left arm. The left humerus had been fractured in an automobile accident when the patient was a young girl. Healing had been poor, and a tibial graft was done with good result. An x-ray showed a well-healed, well-aligned grafted fracture without evidence of infection or other disease. No therapy was indicated.

In November, 1950, she was seen in the Gynecology Out-Patient Clinic, complaining of low abdominal pains. A diagnosis of incomplete abortion was made, and a dilatation and curettage of the uterus was done. Recovery was uneventful.

She was seen again in the Gynecology Out-Patient Clinic in October, 1951, and at that time no evidence of disease was found.

In December, 1951, she was seen as an out-patient in the Orthopedic Department because of some pain in the mid-portion of the left arm. Physical examination and x-rays of the left humerus revealed no evidence of active disease.

She was seen again in January and February, 1952, in the Gynecology Out-Patient Clinic because of low abdominal pains. The urologic consultant could find no evidence of disease of the genitourinary tract.

The patient was born in Nebraska and married at the age of 16 years. Her first husband was killed in an automobile accident when the patient was three months pregnant. She remarried at the age of 21 years and since had lived in various cities in Iowa. Her husband was a cook in restaurants. The patient divorced him in October, 1950. In 1950 she was working at a local tavern.

About 11 o'clock in the evening of the fatal March day, she lodged a complaint by telephone with the police. When they responded to her call about 11:20 p.m., she was found in her apartment, alive and conscious, and told them that she had taken a powder. A small vial, half full of white powder, was found in her possession, in addition to a cup with liquid and white powder in it nearby.

When moved on a stretcher, she stiffened up and had a small convulsion. She did not vomit either in her apartment or in the police car in which she was transported to the hospital. According to witnesses, she had been on an alcoholic debauch for about two days.

She was observed in the Out-Patient Department at 11:50 p.m. to be cyanotic, not unusually rigid, and without pulse, heart beat, or respiration. One ml. of a 1:1000 solution of adrenalin was injected into the heart without any observable effect, and she was pronounced dead.



## CLINICAL DISCUSSION

*Dr. Jack M. Layton, Pathology:* Medicine has made some progress during recent years in its fight against such major causes of death as cancer, heart disease, and diabetes mellitus; however, another leading cause of death, suicide, is becoming more frequent and receives less attention from most physicians. It is important for the physician to be familiar with the prevalence of suicidal acts and their causes, diagnosis, and treatment. It is essential for him to attempt to recognize the signs of a possible impending suicidal attempt so that the suicidally inclined person may be protected from himself.

I shall ask Dr. Gottlieb to open the discussion of the case for today and to call to our attention some of these factors.

*Dr. Jacques S. Gottlieb, Psychiatry:* The term suicide refers to the act of self-destruction. Suicide as a cause of death presents a problem which cannot be underestimated. In Iowa, recent vital statistics indicate that suicide ranked as the 10th cause of death; for the United States as a whole, suicide ranked 9th. One and a half per cent of all deaths are ascribed to suicide. In Iowa, the incidence was 13.3 persons per 100,000 population for 1951. High as this figure is, the probability is quite great that it is lower than the real incidence. Many people who make attempts at suicide do so in ways which can easily be ascribed to accidents; for example, the person drives his car into a ditch or into a tree. Furthermore, in many suicides, physicians ascribe death to other causes in deference to the feelings of the members of the family. So, the probability is very strong that the incidence of suicide is greater than that reported.

We might emphasize this rate by comparing it with some other death rates; it is about double that of tuberculosis and practically the same as those of diabetes and nephritis. So, it is quite possible that suicide will be the 8th cause of death, rather than the current 10th. Actually, there are about half as many individuals who take their own lives as are killed by automobiles. The suicidal rates fluctuate from year to year in relationship to social stress. The rates tend to decrease during war and prosperity and tend to increase during economic depressions and when personal adjustment problems are especially difficult for the mass of our population. At the present time, then, these rates are near their lower limits. In the past they have been up to 17 and 18 per 100,000.

There is an interesting inverse relationship between the incidences of suicide and homicide. During the periods of war and prosperity, the homicide rates increase while the suicide rates diminish, and during the periods of depression and difficulty in personal living, the reverse is true. Of course, in terms of psychodynamics, there is a more intimate relationship between suicide and homicide than these gross relationships suggest. Of additional interest is the fact that about one third of all

individuals who perpetrate murder also successfully commit suicide.

Within the short time available it would be well to mention, rather briefly, the syndromes in which suicide occurs. The literature seems to agree, fairly definitely, that about one third of all individuals who commit suicide are suffering from one of the primary mood disorders. The two conditions which are so considered are those of manic depressive psychosis, depressive type, and involutional melancholia. This points up the fact that every person who is depressed must be considered a suicidal risk, not just the individuals who will tell you that they are having suicidal impulses. It must be taken for granted that anyone with a primary mood disorder and, in fact, anyone with a depression, irrespective of the cause for it, is also, some time during the course of that condition, having impulses toward self-destruction. You don't have to have the patient verify this for you. You can take it for granted as part of the primary symptomatology.

Another point I wish to stress is the fact that suicide is not necessarily related to the depth of the depression. As a matter of fact, suicide occurs most commonly during those periods when the depression is just beginning and the patient is not deeply involved in his illness, or at the period when he is nearly over the illness, when he is near recovery. So, suicide can occur when the depression is relatively mild.

In addition to the group of patients who commit suicide as the result of suffering from these disorders, about 40 per cent of the men and about 20 per cent of the women who successfully commit suicide, do so as a complication of some organic disturbance from which they are suffering. These organic disturbances are in the nature of either chronic or prolonged, painful illnesses or toxic states and deteriorating processes such as those that attend the aging process. I think the patient being discussed today committed her act of suicide after an episode of alcoholic debauchery. As you know, it is not too unusual for suicidal impulses to occur the "day after" a post-depressive period.

Bizarre and rather impulsive types of self-destruction more frequently occur in patients who are suffering from schizophrenia, but these probably do not constitute a very large percentage of suicides, probably only between 5 and 10 per cent of the entire group at the most.

The remainder of the individuals who commit suicide are those who are suffering from a depression, the result of a reaction to an acute situation of stress: a broken love affair, flunking out of school, or economic, social, marital, or sexual problems of one kind or another. The reaction of the individual is one of depression to a particular situation which, for the time being, may be overwhelming to him. No solution is readily apparent. Feelings of depression occur. These may be more or less severe, and with them comes the self-destructive urge. It is not very unusual for people to give



way in these acute situations. As a matter of fact, they account for a fairly high percentage of those who successfully commit suicide.

If a person is struggling with a difficult personal problem and does not show a certain amount of hostility, resentment, and anger overtly, one should then consider the possibility that he has turned these feelings inside toward himself and is potentially suicidal.

Every person, then, who has symptoms of depression, whether his depression is a primary or a secondary one, should be considered as potentially suicidal. In every instance precautions should be taken. The simplest kind of precaution is to inform the relatives that the patient is dangerous to himself and should be watched constantly. In spite of the fact that the relatives may scoff at you, nevertheless you should make this a point, and place the responsibility on their shoulders to watch the patient if hospitalization is not going to be instituted. In dealing with persons who are depressed, one should also very carefully consider the size of the prescription if they are to be put upon medication and remain ambulatory. A large prescription placed in the hands of the patient who has impulses of this nature may result in the entire medication being taken at one time. It is frequently quite wise to advise the relatives in terms of how the medication should be administered and place the responsibility for its administration in their hands.

Not all patients who are depressed, irrespective of the nature of the illness, need be hospitalized. An important aspect of the support of the patient comes from two sources: 1) the family and how they view the patient and are willing to cooperate with the physician and his treatment, and 2) the attitude of the physician. The physician who is treating a patient who is potentially suicidal has to act in a strong supporting role; he has to be the one on whom the patient can depend and in whom the patient can have confidence, even to the point of bargaining with the physician with respect to when, if ever, he will carry out his suicidal act. If this cannot be done and the patient cannot be protected through either the support he has in his patient-physician relationship or through the care and supervision of his relatives, then he should be hospitalized where he can be properly supervised.

*Dr. Layton:* Are there any questions you would like to direct to Dr. Gottlieb?

*Dr. Elmer L. DeGowin, Internal Medicine:* I'd like to ask Dr. Gottlieb if there is a difference in the race incidence in suicide, if you disregard social and economic factors as such. I know the figures in Europe are very different in the different countries.

*Dr. Gottlieb:* I don't think the figures are dependable for the world over, but suicide occurs in all races and in all populations. In some populations, suicide, especially among some primitives and some of the other groups in the Far East, is

an accepted mode of behavior within the culture of that particular group. The incidence is quite high. It wasn't until the Judeo-Christian philosophy developed that suicide became any kind of a tabooed custom. Up until that time it was an accepted way of terminating life. For instance, among the Greeks drinking hemlock was an accepted way of ending one's life. But with the impact of the Christian religion, suicide was at first considered an anti-Christian way of behavior and a sin, and then subsequently it was legislated against and considered an anti-social act. In England at the present time, depending upon whether or not a person is considered insane or suffering from a major illness, various legal charges are placed against anyone who has attempted suicide. In this country there are still four states that prefer legal charges against a person who attempts suicide.

The only statistic with which I am at all familiar, although figures do vary all over the world in terms of the different cultures where there may be a real difference on the basis of race, is the fact that the incidence of suicide among the Negroes in this country is reported as considerably lower than the incidence among the Whites. This difference presumably reflects the fact that the Negro is not as prone to develop depression as people of the Caucasian group.

*Dr. Layton:* Are there any other questions?

*Dr. George C. Albright:* Is there any relationship between the intelligence and the suicide rate?

*Dr. Gottlieb:* I don't believe there is any relationship.

*Dr. Layton:* About three-fourths of all suicides are by violent methods. Many of these are problems for the coroner or the medical examiner, rather than the physician. In other instances, the well known principles of traumatic surgery need to be employed. About one-fifth of suicides are deaths by poisoning, and these do present a challenge to the physician who is called to aid. The emergency medical management of these patients is of great importance. I should like to have Dr. Cullen discuss some of these problems in management.

*Dr. Stuart C. Cullen, Anesthesiology:* I would just like to reread this next to the last paragraph. It says that about 11:00 in the evening of the fatal March day the patient lodged a complaint by telephone with the police and, when they responded to her call about 11:20, she was found in her apartment, alive and conscious, and told them she had taken a powder, and these vials were found. Moved on a stretcher, she stiffened up and had a small convulsion. (At least, this is the interpretation of the policeman.) She did not vomit, (and again this is the interpretation of the policeman) either in her apartment or in the police car in which she was transported to the hospital; however, when she was observed in the Out-Patient Department, she was then cyanotic, without pulse, heartbeat, or respiration, and was dead.

Now, I would like to point out first that we have,

by laziness, by custom, or for a number of other reasons, called upon the police for medical judgment in situations requiring very astute medical evaluation. The point I'd like to make in this particular case is that perhaps this patient might not have been a candidate for a C.P.C. if the physician had visited the patient in her apartment and she had not been transported by the police. I can understand why the police, having observed this patient—particularly if she appeared conscious—would feel that she was transportable. So they moved her. Now, many patients in the acute phases of poisoning do not tolerate transport, not only because of the condition of the circulation and ventilation, but because they are not transported in a fashion suitable to maintain an adequate airway. The processes of acute poisoning move so rapidly that this relatively short interval of transport, between the time of observation in the patient's apartment and her observation in the Out-Patient Department, may perhaps have made the difference between life and death. There should be some education or re-education of our policemen and firemen that it might be advisable to call physicians to the homes of these patients, where actual medical judgment can be brought to bear and therapy instituted, before transporting the patient to a place where more definitive care can be applied.

We delegate this business of medical judgment in acute circumstances of drowning, electrocution, etc. to the policemen and firemen, and many times the only care the patients get is at their hands. It is a little difficult to understand why, under these acute circumstances, physicians should not be at hand and in a position to make the diagnosis and apply the proper type of immediate therapy. Immediate therapy, in most cases of acute poisoning, need not be definitive with respect to the type of poison ingested or applied. The patient's immediate need in these acute situations is for attention to the airway and the maintenance of adequate ventilation, and I insist upon the word ventilation rather than oxygenation because the patient should not only be oxygenated but have his carbon dioxide removed as well.

Attention should be paid in acute circumstances also to the state of the circulation. The circulation may deteriorate rapidly as the process of poisoning develops, and close attention and rather heroic therapy may need to be given to maintain the patient's circulation in any degree of efficiency. If the patient's airway and ventilation are maintained, extra oxygen is given if need be, and the circulation is properly cared for, then most patients will survive long enough for a physician to make a definitive diagnosis in respect to the drug that has caused the poisoning process and to apply specific therapy. Of course, as in this case of strychnine poisoning where convulsions are an acute part of the poisoning, for an adequate airway to be maintained, the convulsions must be stopped. This control of the convulsions under

these circumstances is not specific therapy; this is therapy directed toward maintaining this patient's airway, ventilation and circulation.

Regarding this particular patient, there are a number of interesting questions to raise. It is a little difficult to believe, in view of the reported minor degree of convulsive efforts, that she died as a result of the poison itself. There is another thing that one could think of: the transport process. Perhaps she was put in such a position, under the partial influence of alcohol and poison, that she was narcotized enough to have relaxation of the jaw, obstruction of the airway, and development of asphyxia, and that then she died as a consequence of the asphyxia and not of the poison. This sort of thing happens if the patient is dumped into the back of a police car without any particular attention being paid as to where her head is or whether she has room for adequate chest movement to maintain ventilation. It is possible also that this patient could have regurgitated or vomited without its being observed by the policeman and aspirated sufficiently to cause interference with her ventilation. She might have regurgitated enough to have a severe laryngospasm which would cause enough asphyxia to precipitate, in the presence of the poison and alcohol, a cardiac arrest. In other words, these are only a few of the things that could have occurred to this patient between the time she was observed in her apartment by the police and the time she arrived in the Out-Patient Department here.

I think that it is important, many times, that these patients be seen in their homes and be given this immediate attention before they are transported. If they are in a position to be transported to a place where more definitive therapy is available, it can be done with less risk.

*Dr. Edgar S. Brintnall, Surgery (V. A. Hospital):* Dr. Cullen, on a practical basis, how in *this* town are you going to get the doctor and the appropriate equipment to that patient's apartment?

*Dr. Cullen:* Well, I make a plea for the fact that all men in the practice of medicine, particularly in the general practice of medicine, should have available as standard equipment in their cars a small supply of oxygen, a small vacuum aspirator, and some way of giving a vaso-pressor intravenously. But I think they ought to have not only the oxygen and a means for giving it, but they ought, ideally, to have a small suction machine.

*Dr. Brintnall:* Shouldn't each hospital, in order to fulfill its obligations to the community in which it is located, have available facilities for transport and the necessary equipment to send it out to these cases?

*Dr. Cullen:* That is one way of solving the problem. My other point is that we are here delegating to the policemen and firemen diagnosis and therapy they are in no position to give, in situations where patients need it very badly. Now, whether the physician carries it himself or whether an arrangement is made for that sort of equipment to



be made available on acute demand, doesn't make too much difference as long as it is available.

*Dr. Henry E. Hamilton, Internal Medicine:* Dr. Cullen, what vaso-pressor drug should be available in the doctor's kit?

*Dr. Cullen:* Well, anything but epinephrine! Ephedrine, neosenephine, any of that particular group. Anything but epinephrine! I realize that epinephrine is the standard one, but the contra-indication to epinephrine is that it significantly increases cardiac irritability, which in states of poisoning, plus the usual associated asphyxia, may induce fibrillation and cardiac arrest. Furthermore, after the initial tension elevation there is secondary recession. So, epinephrine should be abandoned as a vaso-pressor drug under these circumstances, though it is the traditional emergency drug, for it can do more harm than good.

*Dr. Layton:* We encounter other causes of poisoning associated with suicidal attempts, and this time of year carbon monoxide is often the agent involved. Carbon monoxide asphyxia should be proved by spectroscopical or chemical study. Within the last few years, barbiturates have been a favorite method of poisoning in suicidal attempts. As new agents which have poisonous characteristics are put on the market they will, in turn, be used in suicidal attempts.

In this particular patient, so far as we can tell, the convulsions were not particularly severe. I wonder how much the alcoholism may have contributed to a modification of her convulsions due to strychnine. Would you care to comment on that point, Dr. Gross?

*Dr. Erwin G. Gross, Pharmacology:* Strychnine itself can be a depressor after the convulsions are over. Even after you quiet the patient down, it can continue to be a depressor. I feel that the alcohol may also have entered in here as a depressor along with the strychnine.

#### SUMMARY OF NECROPSY FINDINGS

The principal anatomical findings were those of acute, moderately severe pulmonary edema and cerebral edema. Other viscera were congested. Rigor mortis was set and was most noticeable over the feet, lower extremities, jaws, and fingers. The tongue showed two recent excoriations along its lateral margins, one on each side of the midline, parallel to the upper canine teeth.

Strychnine was found in the stomach contents and in the cup near her when she was found by the police. Post mortem blood alcohol level (taken 9¼ hours after death) was 154 mg. per 100 cc.

Incidental findings were the old well-healed scars over the left humerus and right tibia from the sites of the previous orthopedic surgical treatments and an old well-healed scar in the left breast.

#### NECROPSY DIAGNOSES

Poisoning, acute, due to ingestion of strychnine.  
Alcoholism.

*Dr. Layton:* Are there any questions you'd like to ask?

*Dr. Pratrury T. Rao, Pediatrics:* What is the normal lethal level of alcohol?

*Dr. John P. Hummel, Biochemistry:* The lethal level of alcohol in the blood is considered about 450 to 500 mg. per cent. It has been known up to 700, but it is very unusual for persons to survive at this level. The question about which I wondered particularly in this case, was that the blood alcohol level had obviously been much higher at an earlier period and was receding. The clinical manifestations of alcoholism as the blood level is coming down to a certain level will not be the same as when it is going up.

Fairly recently it has been shown that a person will show marked signs of intoxication at a level of 150 mg. per cent, the level which is ordinarily accepted by the National Safety Council and the American Medical Association Committee on Driver Intoxication Problems, as being the level of intoxication.

However, after a person's blood alcohol level has risen to perhaps 300 mg. per cent or 400 mg. per cent, as the blood alcohol level drops down to 150 mg. per cent again, the manifestations will not be as pronounced as they were when it was going up.

*Dr. Cullen:* In view of what Dr. Gross had to say about the post-convulsive depression from strychnine and the possibility that with a large dosage there would be depression, instead of excitement and the convulsive manifestations of it, the importance of the period in which this patient was transported is further emphasized. She was said to have had a mild convulsion before she was transported, but it may have been altered by the quantity of alcohol present. She was transported in a condition when she had a known 150 mg. per cent level of alcohol, both states contributing to the opportunity for depression, obstruction, consequent asphyxia, and cardiac arrest.

And in partial answer to your question, Dr. Rao, the lethal level of alcohol or of ether or of cyclopropane, is that level beyond which the patient is unable to maintain his ability to ventilate. If, by reason of a combination of circumstances, the patient is in a position to become obstructed, the lethal level of alcohol is perhaps 120 mg. per cent or 300 mg. per cent or 75 mg. per cent or whatever it takes to get that particular patient, with whatever drugs or conditions that patient has been exposed to, in a position where he is unable to maintain an airway and ventilate himself.

*Junior Student:* How rapidly could strychnine have been absorbed?

*Dr. Gross:* Fairly rapidly. It depends, of course, upon the contents of the stomach—how much food is present. Experimentally, in animals, if an oral dose is given, some results would be expected within five minutes.

*Resident Physician:* Dr. Cullen, what treatment

do you suggest besides airways in this type of case?

*Dr. Cullen:* If an airway is maintained and the patient is ventilated and the circulation maintained, then a good deal has been done toward resuscitating him, toward treatment and bringing him to a point where he can be observed by someone experienced in the maintenance of airways and ventilation and circulation during the transport. That is the critical factor. Get him in a condition where he can be transported and observe him during the period of transportation so that he can be maintained in an efficient state of respiration and circulation.

*Dr. Layton:* Patients who die from strychnine poisoning die from asphyxia.

*Dr. Franklin H. Top, Hygiene and Preventive Medicine:* Do you happen to remember what the distance was that they had to travel with her in the police car from her apartment to the hospital?

*Dr. Layton:* Yes, she was conscious and mentally alert at the time she was observed in the apartment and when they put her into the car. Now, there is no record of any conversation between her and the policeman in the car, so I don't know about that. In answer to your direct question: from South Clinton Street to the University Hospitals.

*Dr. Albright:* I am intrigued by all this and would like to hear Dr. Brintnall answer his own question.

*Dr. Brintnall:* I think that probably the most practical way to do it would be for every hospital to have available equipment of some kind and have someone who could be called under these circumstances. I think that every hospital in this town should be under such an obligation. I don't see how we can limit the situation to one hospital when an emergency arises.

*Dr. Layton:* Dr. Schueler has a comment he'd like to make first.

*Dr. Fred W. Schueler, Pharmacology:* Most of the comments have dealt with the "tool of death," strychnine. While this is of obvious direct interest to a pharmacologist, it appears to me that the main point has been sidestepped. More specifically, I would like to hear further comment from Dr. Gottlieb concerning the complex process which led to the suicide. In this regard, is there ever any correlation between the type of suicidal agent utilized and psychiatric background of the person involved?

*Dr. Gottlieb:* The question concerns the correlates of the method of suicide. In general, women use more passive methods of suicide than do men, who take a more aggressive way of reaching the same end. So poisoning, by various agents, including those that are rather violent, such as the acid, more commonly occurs among women than among men. Males go in for suicide by hanging, by jumping in front of cars, by cutting their throats and so on, to a much greater extent. I don't think

there is any way of predicting the method of suicide any given patient will use.

This case illustrates the ambivalent feeling regarding the impulse: the attempt to control the impulse. Here she made this suicidal gesture and then she picked up the telephone and called the police to come and save her. She was being torn within herself. This is a very common and a very frequent situation. The person who is being overwhelmed with these impulses to destroy his own life also at the same time is trying to protect himself and keep from giving way to these impulses. If the impulse for self-destruction gets the upper hand, and he gives way to it, then the other aspect of wanting to live may come uppermost and make him yell for help.

Also, as many of you have observed, I am sure, in treatment of attempted suicides, those who have tried to end their lives because of an acute situation find a great deal of relief after they have been successfully treated. They have made their attempt; they have expiated the guilt feelings which may have led to the act, and also the situation now will take on a different value in terms of the meaning of their lives. So, if he is not suffering from a pathologic depression but an acute one in relationship to some situational stress, very frequently the patient who has been treated will have control over these impulses from then on.

*Dr. Layton:* In summary, I would like to point out that we have discussed two aspects of the suicide problem: the broad preventive medical aspect which Dr. Gottlieb introduced and the emergency medical management of some of these cases associated with poisoning, which Dr. Cullen introduced.

The problems relating to suicide in view of its leading role as a cause of death deserve careful and continued study by all physicians. With a better understanding of this complex problem, physicians can significantly reduce the loss of life.

#### A.M.A. NEWS NOTES

The inauguration of Dr. Edward J. McCormick, of Toledo, Ohio, as president of the American Medical Association will be broadcast over the ABC radio network of more than 300 stations on Wednesday night, June 3. Although the ceremony will take place on Tuesday, June 2, it must be transcribed for later broadcast because radio time on that night has been pre-empted for programs having to do with the coronation of Queen Elizabeth.

Current statistics on medical education in the United States have been compiled by the A.M.A. in a pocket-size Factbook on Medical Education. In question-and-answer style, it gives information on enrollments, financial support, and faculties. Copies will be available through state and county medical societies.

The American Medical Education Foundation, Executive Secretary Hiram W. Jones reports, has so far received \$594,000, in 3,600 contributions, toward its 1953 goal of \$2,000,000. Since it began operation in 1951, to stimulate voluntary contributions from members of the medical profession for support of medical schools, the foundation has raised \$2,246,401.



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
MISS MARY L. McCORD, Managing Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII

MAY, 1953

No. 5

## NEW ASSISTANT EDITOR

It is with pleasure that the Board of Trustees of the Iowa State Medical Society announces the appointment of Mr. Edward W. Hamilton as assistant editor of the JOURNAL. Mr. Hamilton holds the master of arts degree from the University of Colorado and the doctor of philosophy degree from the University of Minnesota, both in the field of English. His work record includes service as school librarian and teacher of high-school classes in history and Latin, and as teacher at the University of Minnesota, Louisiana State University and Drake University. During World War II he wrote publicity, including radio scripts and speeches, for the Office of Civilian Defense, and since then he has done some book reviewing and has published several articles on methods of teaching English.

The Board hopes that Mr. Hamilton will not only handle the editing and publishing of the JOURNAL, but that he will assist various committees of the state society in the preparation of articles for health columns, special items of interest, and educational programs. The Committee on Rural Health is most anxious to offer a health column to the newspapers of Iowa; the Committee on Mental Health wishes to prepare short outlines of psychiatric procedures which can be utilized by every physician in his examination of patients; and other committees also need this sort of assistance.

Heretofore, the personnel of the state society have lacked time to do research work necessary to the preparation of special articles and reports that were requested of them. By employing Mr.

Hamilton, the Board hopes to enable the office more adequately to fill such needs of the members, the committeemen and officers, and the public.

The Board urges members to call upon Mr. Hamilton for whatever assistance they may require.

## HEALTH AND SOCIAL SECURITY

In the American Medical Association Journal for March 28, 1953, President Louis H. Bauer, M.D., devoted his page to explaining why he and the other officers of the national organization changed their minds about the raising of the Federal Security Agency to cabinet status and why the special session of the House of Delegates approved that change.

As regards the stand that the AMA originally took on the matter, Dr. Bauer said, "Twice during the last administration the Association went all out to defeat reorganization plans that would have raised the Federal Security Agency to an executive level. . . . There was no reason to believe that the plans would have done anything but provide increasing political control over medicine, and that, in fact, both attempts were primarily political plays."

After the November, 1952, election, he explained, it was obvious to everyone that the spokesmen for medicine would be listened to as they had not been for a very long time. But, the Eisenhower administration's prime aim being the consolidation of government services, it became equally apparent that the Association's objective of a cabinet post for health, apart from education and social security, was still unattainable.

Indeed, the new officials with whom Dr. Bauer and his associates talked convinced him that a department combining education and social security with health would best serve the interests of medicine. "It was called to my attention," he said, "that both education and social security have medical phases and that such phases could not be brought under a department of health. It was also stressed that a separate department of health, under an unfriendly administration, would well engage in empire building. . . . While such could happen no matter what the arrangement, it would be less apt to happen if there were not a separate department. I must confess that this argument left me at a loss for an answer."

Though President Eisenhower and his aides did not accede to the Association's original plan, they were quite willing to adopt suggestions on implementing the plan for a combined department. "As a result," Dr. Bauer pointed out, "all medical activities within the new department, as well as all medical phases of any activities within education or social security, must be cleared through a special assistant to the Secretary. This will include appropriations and budgets as well as policies. The same special assistant will also be the repre-

sentative of the Secretary at all interdepartmental meetings at which health will be a topic for discussion and also at congressional hearings where appropriations involving health will be discussed. Furthermore, this special assistant must be selected from among persons who are recognized leaders in the medical field with wide nongovernmental experience. This means a doctor of medicine."

In conclusion Dr. Bauer pointed out that despite its approval of the plan for the Department of Social Security as it now appears on paper, the Association has reserved the right to urge whatever changes may later prove necessary.

### THE PROPHYLAXIS OF CARDIAC ARREST

Newspapers, magazines and medical journals have recently been publicizing another of medicine's triumphs: *cardiac resuscitation*. Sudden cardiac standstill is as dramatic a crisis as ever confronts the surgeon-anesthetist team. There are few sensations to equal that experienced by the surgeon when the flaccid heart compressed in his hand gives a few tentative, convulsive contractions and then resumes a normal rhythm. The tension of the operating room is broken, and the story passes through the hospital personnel like a whirlwind. Such an accomplished feat overshadows the even more important question: "Why did it happen in the first place?"

That is a good question, and one, at the present time, without an answer. Yet, undeniably, in analyzing a group of such patients, one finds certain circumstances common to them all:

1. The operations being performed, by and large, are "routine procedures." Desperately ill patients and those undergoing tedious or radical surgery rarely are stricken with cardiac arrest. The cardiac surgeon is almost never confronted with this problem, although he manipulates the heart and great vessels in a patient already subject to tremendous cardiovascular stresses. Rather, it seems, the candidates for cardiac standstill are the "easy hernia," "the simple appendix," and "the uncomplicated gall bladder."

2. The anesthesia used in these cases has been of all types, but usually it has not been completely satisfactory. Often the spinal anesthetic has been "supplemented by a little pentothal during the closure." The cyclopropane was stopped a little too soon, and the patient moved a bit during the skin closure. The airway was not good, or the patient had considerable laryngospasm.

3. *Anoxia has been a common finding before the cardiac arrest occurred.* Perhaps the patient actually has not been afforded a completely adequate supply of oxygen. More commonly his respirations have been depressed, or his position on the table has been poor. Perhaps the induction dose of the anesthetic agent was adequate, but added amounts were supplied before the initial action was complete. One recalls that anoxia is a corollary of

anemia.—Did the patient have a blood count, or even a pre-operative hemoglobin determination?

In summation, it would seem that *cardiac arrest is relatively more common in the "good risk" patient undergoing "routine surgery."* The poor risk patient undergoing a radical procedure has been afforded every opportunity to survive. His pre-operative evaluation has been complete. The choice of anesthetic agents has been the subject of debate and has been personalized to his requirements. The surgeon-anesthetist team is alert to recognize *early* any minor changes in the condition of the patient and to take appropriate and immediate measures. In other words, the prophylaxis of sudden cardiac standstill is strict and undivided attention to all of the requirements of the patient all of the time. Each surgical procedure must be regarded as a period of critical importance in the life of the patient. There is no operation, no matter how simple, unattended by a possibility of death. To be sure, occasional cardiac arrest is bound to occur, but let us not be struck by a lightning bolt from a clear sky.

### DOCTOR DRAFT LAW

All physicians are interested in the current Defense Department bill for amending and extending the Doctor Draft law which expires July 1, 1953. The present bill under consideration, S1531, contains the following points.

*Priorities.* The existing four priorities would be retained. Most men in Priorities I & II (government-educated or World War II draft-deferred for educational purposes) already have served or are now in uniform. Remaining are Priority III (non-veterans) and Priority IV (those with service, if even for a day). Priority III men now are being called, with the youngest first. When Priority IV is reached, presumably those with the least service will be taken first, as suggested in the present law.

*Required Length of Service* (in the absence of a declaration by Congress of war or national emergency). The bill calls for a maximum 24 months' service with these exceptions: 1. *Reservists* and *non-reservists* who have served 12 months or more since June 25, 1950, could not again be called under the Doctor Draft Act. 2. *Reserves* who have served 12 months or more since Sept. 16, 1940, but not in the period since June 25, 1950, could be required to serve no more than 17 additional months.

*Definition of Prior "Active Duty."* For purposes of prior service credit, active duty is defined as time spent (a) on active duty or active duty for training in Army, Navy, Air Force, Marine Corps, Coast Guard, or U. S. Public Health Service, (b) on non-military duty prescribed for a conscientious objector, and (c) in the military service of a co-belligerent of the U. S. in World War II. Not accepted as active duty would be time spent in ASTP, V12, or similar training programs, or in "intern training, residency training, or other post-

(Continued on page 196)

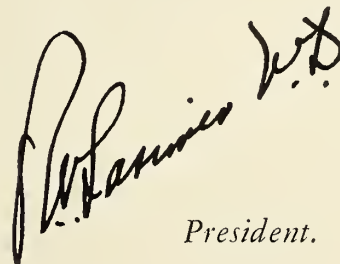


## *President's Page*

By the time this appears in print, the 1953 Annual Meeting will have been held and a new group of officers will be at work. It will be difficult for us to duplicate the record set by Dr. Whitaker. He has been the most active officer that the Society has had for many years, and we new officers can scarcely hope to equal or approach his record. It is our desire that we can continue to work on the several projects which he has started and that we can have his continuing help in carrying the Society forward. Every member should give us his personal help by becoming the public relations worker for Medicine among his own clientele.

Iowa will be on trial in the coming meeting of the AMA. Our Elaboration of Medical Ethics has been attacked by certain individuals and groups, but we have gained strong allies in the officers and members of the American Academy of General Practice. The various resolutions will be presented to the AMA House of Delegates, and the committee hearings on these resolutions will be interesting and exciting. Those of you who go to New York for the Annual Meeting should find time to go to the Judicial Council meeting where the resolutions will be debated. We hope that a National Policy of a more liberal nature than the present one will be developed.

The other vexing problems with which your officers will need your help include veterans' care, the new Medical Manpower plan, the osteopath problem, and many seemingly everyday matters. It is our feeling that discussion by members at the meetings of your county societies will create more thorough understanding of many situations. Free discussion is the way in which the Board of Trustees and the officers settle various matters of policy. Conclusions which you reach after discussion should be transmitted to the state office so that your advice and wishes may become known to those whose responsibility it is to come to definitive decisions.

A handwritten signature in dark ink, appearing to read "J. H. Harrison" with a stylized flourish at the end.

*President.*

## *General Manager's Page*

### COMMITTEES FOR 1953

One of the most important duties of the president is the selection of his "official family."

The organization of each committee depends upon the chairman, who must be willing to devote much time and energy to this important task. The committee's success is definitely dependent upon his ability to coordinate the activities of its members, and the willingness of *each member* to be a regular attendant at committee meetings and assume his portion of the responsibility. To illustrate: committee activity showed an increase of 300 per cent last year.

In accepting the honor of an appointment, a committee member assumes the above responsibilities, and, in addition, guarantees cooperation with the president in achieving his goals.

We have made much progress during the past year. Let's make 1953 a banner year!

*R. S. Bernard, M.D.*

*General Manager*



---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. LONNIE A. COFFIN, Farmington

*President-Elect*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*Secretary*—MRS. CHARLES F. LOWRY, 246 Lincoln, Council Bluffs

*Treasurer*—MRS. DWIGHT C. WIRTZ, 449 56th St., Des Moines

---

## PRESIDENT'S REPORT

The Woman's Auxiliary to the Iowa State Medical Society in completing another year shows continued service and progress. We have endeavored to follow the general outline of the National Auxiliary. I feel that it is a privilege to be a physician's wife, but with that privilege come definite responsibilities. Membership in the auxiliary gives us an opportunity to accept and carry out these responsibilities. It is only when we are well informed that we can bring convincing and accurate information to others.

The reports of the state officers, committee chairmen and county presidents for 1952-1953 show increased activity and greater interest and enthusiasm in each phase of our work. I urge you to read them carefully.

We were guided at all times by our Medical Advisory Committee: Dr. R. N. Larimer, Chairman; Dr. L. A. Coffin; Dr. Otis D. Wolfe; and the General Manager of the Iowa State Medical Society, Dr. R. D. Bernard. Their kindly interest and fine cooperation are deeply appreciated.

Iowa is justly proud of its representation on the National Board, Mrs. C. H. Mitchell, of Cincinnati, Constitutional Secretary. She is one of our capable and enthusiastic members and has given Iowa years of service.

The 1952-1953 program suggestions were grouped under three classifications, as follows:

Education and Activity in Legislative Matters.

Our Own Auxiliary Projects.

Health-Education Program.

The accomplishments and progress have been due to the loyalty and enthusiastic cooperation of the officers, committee chairmen, county presidents and auxiliary members. To each I extend sincere gratitude and appreciation.

The district meetings were gratifying, and we look forward to future district meetings with much enthusiasm, for we really want and need these opportunities for coming together and becoming better acquainted.

As president it has been my desire to be of help to the county auxiliaries and to serve them when called upon. I urge county presidents to invite any state officer living in your vicinity to your meeting, for mutual benefit is derived.

I attended two national meetings: the Woman's Auxiliary to the A.M.A., and the Presidents and

Presidents-elect, both in Chicago; the Regional Legislative Conference of the A.M.A., in Omaha; and the National Conference on Rural Health, in Roanoke. I acted as moderator at a session of the Fourth Annual Health Education Workshop, in Cedar Falls, and participated in the Governor's Lay Leadership Conference, in Iowa City. I found these meetings a source of much inspiration and helpful experiences.

I attended the annual meetings of the Woman's Auxiliary to the Iowa State Dental Society and the Woman's Auxiliary of the Iowa Pharmaceutical Association. Exchange of ideas in our allied professions is beneficial.

Our Auxiliary also had representation at the Iowa Council for Better Education, the Iowa Health Council, the Educational Television Conference and the Iowa State Education Association. We have membership in the Iowa Council for Better Education.

Two board meetings were held, at which good reports of our activities were given. In addition, I attended many committee meetings called by the chairmen.

I want to take this opportunity to express my debt of gratitude to Mary McCord and Dr. R. D. Bernard for their ready and able assistance during my term of office. This has proved most helpful and valuable, as well as encouraging.

I have appreciated the honor of being President and will cherish the friendships I made. For the privilege of having served you, I thank you.

MRS. LONNIE A. COFFIN, *President*

---

## ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AND WOMAN'S AUXILIARY

The thirtieth annual meeting of the Woman's Auxiliary to the American Medical Association will be held in New York City, June 1 to 5, at the Hotel Statler. Registration and national committee meetings will start on Sunday, May 31, 1953. The complete program will be published in the May BULLETIN.

Mrs. William J. Lavelle will be chairman for this meeting and Mrs. Adolph H. Emerson will be co-chairman.

A tea honoring Mrs. Ralph Eusden, president,

and Mrs. Leo J. Schaefer, president elect, will be held on Monday, June 1. All doctors' wives are cordially invited to attend. Mrs. Schaefer will be remembered with pleasure by members of the Iowa Auxiliary who were privileged to hear her speak at annual meetings in Burlington and Des Moines. She will be installed as the new national president on Thursday morning, June 4.

Reports of state presidents are limited to two minutes. The first group of states will report on Tuesday, June 2. Iowa is listed in this group. Reports will begin at 2:30 p.m.

If you have not all ready done so, you are urged to make your hotel reservation immediately. The Statler Hotel has reserved a block of rooms to accommodate the entire convention. When you write, please mention that you are a member of the Woman's Auxiliary, so that your request will receive special handling.

For other hotels, please consult the current issue of *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*.

### COUNTY AUXILIARY ACTIVITIES

Fifteen members of the Dallas-Guthrie Auxiliary met with the doctors for luncheon on March 19, 1953, in the Women's Club Room in Guthrie Center. Following luncheon, the regular business meeting was conducted by the president, Mrs. William C. Wildberger. Mrs. Charles A. Nicoll and Mrs. Donald W. Todd were appointed delegate and alternate to the annual state meeting. Mrs. Elva Hill gave a most enjoyable book review.

MRS. DONALD W. TODD

The Marshall County Medical Auxiliary is working on the nursing section of a vocational guidance program in cooperation with the high school. In the fall the Auxiliary helped the League of Women Voters in the "Get Out and Vote" campaign. Also we have had a program on "Knowing Your Hospital." This included a talk and the showing of a movie by the superintendent of the Deaconess Hospital.

MARIE MARBLE

The Polk County Medical Auxiliary held a luncheon meeting at Younkers Tea Room, in Des Moines, on February 27. Mr. Harold Hymans, Director and Dr. Everett George, Medical Advisor, of the Iowa Society for Crippled and Disabled Children and Adults discussed the topic "Help for the Handicapped." A six year old boy demonstrated how he learned to walk and use braces.

The Polk County Medical Auxiliary entertained at a St. Patrick's dinner and dance in the Terrace Room of the Hotel Savery. About 200 persons attended. In the absence of Mrs. Howard C. Turner, Mrs. John Bakoty and Mrs. Louis Noun assumed

general responsibility for a most successful social affair.

MRS. HOMER E. WICHERN

Mrs. Roger Minkel, of Fort Dodge, fifth-district counsellor of the Iowa Medical Auxiliary, addressed the Hamilton County Medical Auxiliary at the home of Mrs. W. B. McGahey on March 20. Mrs. Minkel pointed out how necessary it is that members substitute for their busy husbands in working for health programs.

Mrs. Soren S. Westly was hostess to the doctors' wives in District II at a luncheon at Hotel Hanford, in Mason City, on April 6. Speakers included Mrs. Dean H. King, Spencer, chairman of Nurse Recruitment; Mrs. Lester R. Hegg, Rock Valley, state vice president and chairman of Organization; and Mrs. James F. Gerken, Waterloo, member of the state committee for Work with the Handicapped.

### NATIONAL CONFERENCE ON RURAL HEALTH

The Eighth National Conference on Rural Health sponsored by the American Medical Association Council on Rural Health in cooperation with the national farm organizations was held at Roanoke Hotel, Roanoke, Virginia, February 27-28, 1953.

Mrs. E. B. Hoeven, President-elect, and Mrs. L. A. Coffin, President of the Woman's Auxiliary of the Iowa State Medical Society, were privileged to attend.

It was attended by 700 people representing medical, agricultural and community groups with a combined membership of several million.

The 1953 theme was "Widening the Highway to Health." The aim of the Council is to deal with rural health problems on the local level.

The program was built around problems of financing rural medical care, the place of dental care in the rural health program and specific examples of successful accomplishment and how they have been developed and carried out at the community level.

Dr. F. S. Crockett, Chairman of the Council, told the gathering, "There is much evidence warranting the conclusion that the trend is away from statism." Continuing education of the public is the best method for achieving the goal of individual and local self-help in the solving of medical problems in rural sections. Poor schools, poor churches and poor roads, homes and farms go hand in hand with inadequate medical care.

Frank W. Peck, of Chicago, managing director of the Farm Foundation, said medical care insurance is the "missing link" in many family budgets. He offered education as the solution.

Dr. Carl S. Mundy, of Toledo, Ohio, Vice-Chairman of Council on Rural Health, said there are many sources of insurance available and they



offer a variety of contracts that should satisfy the needs of most groups. Group health and accident insurance coverage for farmers and their families is an economical means for meeting medical care costs.

Dr. Louis H. Bauer, of Hempstead, New York, President of the American Medical Association, commended Virginia for her rural health program. It ranks high, and her drive for attracting doctors shows progress as good as that of any state in the nation. If communities become interested and take an active part in getting doctors, they will go to them when they need a doctor. He gave an informative explanation of how the A.M.A. is functioning for the lay people.

Mrs. Ralph Eusden, President of the Woman's Auxiliary to the A.M.A., brought greetings and told of our progress.

All phases of rural health were included on the two day program and were a source of much inspiration and useful information.

MRS. LONNIE A. COFFIN, *President*

I wish to express my thanks to the trustees of the Iowa State Medical Society for making it possible for Mrs. Coffin and me to attend the National Rural Health Conference at Roanoke, Va.

After arriving home I find that my mind has assimilated and pigeon-holed a great amount of information which will be of value to the Auxiliary and to the Medical Society, information which will be reflected in widened public relations through the Woman's Auxiliary to the Iowa State Medical Society.

This conference clarified, for those attending, the important role of the A.M.A. and the committees of the state medical societies in rural health. They took back to their own communities factual knowledge and a new understanding which would not have been possible, otherwise.

Contacts were pleasant and cordial, and a friendly understanding of each other's problems was manifest; this was especially apparent in leaders of farm groups.

These annual conferences attended by people interested only in better health for more people; this mutual project of doctors and rural people meeting to solve their problems of health could set a pattern for other groups.

MRS. EDWARD B. HOEVEN

### YOU ARE ELIGIBLE

As a member of the Woman's Auxiliary to your County Medical Society, to your State Medical Association and to the American Medical Association:

1. To assist your Medical Society in its program for the advancement of medicine and public health.
2. To cultivate friendly relations, and promote mutual understanding among families of physicians.

3. To serve as a leader of health education in your community.

4. To act as a liaison between the medical profession and the public.

You will learn through our program about

1. The American Medical Association, its history, functions, various Councils and Bureaus.

2. National and State legislation relative to health problems and medical education.

3. Voluntary prepayment medical and hospital care plans.

4. Health services provided by your State Board of Health, local health department and school health department.

5. Community Health Councils and Health Days.

6. Nurse Recruitment.

7. Civil Defense.

8. TODAY'S HEALTH MAGAZINE.

9. The World Medical Association, World Health Organization, the Student American Medical Association.

10. The Medical Education Foundation.

11. All current issues which affect medical practice and research and how you as the wife of a physician can interpret them to lay groups.

You will serve as you

1. Bring the message of medicine to all organizations with which you are affiliated and provide qualified medical speakers for community meetings and organizations.

2. Assist with nurse recruitment program.

3. Take part in Home Nursing, First Aid, Red Cross, Blood Bank programs.

4. Aid voluntary health organizations.

5. Further the benevolence program of your state or county.

6. Prepare yourself to answer current questions about issues affecting health.

7. Participate in public health education through radio, health exhibits and other informational media.

You will become an informed member by reading

1. THE BULLETIN

2. THE HANDBOOK

3. TODAY'S HEALTH

4. A.M.A. JOURNAL

5. STATE MEDICAL JOURNAL

6. WOMAN'S AUXILIARY NEWS

7. Pamphlets, newspapers and magazines.

"Health education is a gradual process, and one which must be carried on and nurtured for a long time. It must find applications in the daily association between physician and patient, and between public health workers and the public. Only in this way will people begin to realize that disease may be prevented at but slight expense and discomfort to themselves. They must be inwardly convinced that health is purchasable and worth purchasing."—Franklin H. Top, "Handbook of Communicable Diseases."

---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## AAGP SAINT LOUIS MEETING

The annual assembly of the AAGP in Saint Louis closed on March 26, having done honor to our organization for the fifth successive year. The registration was over 5,500, which made it the largest meeting we have had.

About our Academy there was one thing particularly noticeable which we may have been amiss in not recognizing previously. We are thinking of the apparent common bond of fellowship which was so evident everywhere. Old acquaintances were renewed and new ones made. The general morale of the men and women attending the meeting was remarkably high. Everyone spoke to everyone, and there were no long faces. The democracy of the group was unusual. Of course, this camaraderie was largely due to a wide base of common interests plus the fact that general practitioners, on the whole, are naturally a friendly group of people. Those who were unfortunate in not being able to attend the annual meeting of the American Academy should certainly resolve to miss no more such meetings.

### *Iowa Chapter Luncheon in Saint Louis*

Sixty-seven Iowa general practitioners were registered for the assembly and are thereby entitled to 15 hours of formal post-graduate credit for their attendance.

On Wednesday, March 25, 53 Iowans attended the Chapter luncheon in the Statler Hotel. We were privileged to be greeted by Dr. William B. Hildebrand, the new President-elect, Dr. Jack DeTar, the inimitable Speaker of our Congress of Delegates, and by Dr. Sam Garlan, Chairman of the State Officers' Conference.

### *The Scientific Sessions*

No medical meeting can suit the tastes and specific interests of every individual general practitioner, but nowhere can a meeting be found which will come closer than the scientific sessions of the annual assembly of the American Academy. The broad field of the general practitioner is respected, and discussions are especially tailored to fit the specific needs. Every effort is made to find out what the main body of the Academy members want and then to provide just that. A sampling

was taken last year, and it was found that the "meat and potatoes" of new diagnostic and therapeutic methods topped the list. We are sure the results of this sampling will be reflected in future assemblies of the AAGP. Formulation of the program for the 1954 annual assembly is well under way and will be comprehensive as well as of the desired "meat and potatoes" variety. Save the third week of March, 1954, now so that you may attend. It will be held in Cleveland.

### *New Home Office*

The new home office building for the American Academy at Kansas City will be started by the end of the year. Most of the Iowa Chapter members know that a site was bought some time ago. By a bit of good fortune and astute management, a much better site has been acquired and the original one disposed of at a handsome profit. The new location will be at Oak Street and Volker Boulevard, overlooking a vast landscaped parkway and the famous Nelson Art Gallery. It lies immediately north of the large and beautiful Twin Oaks apartment buildings and is just a short way east and south of Kansas City's Plaza. The Building Committee, headed by Dr. John Fowler of Barre, Mass., reported that funds are coming in steadily for our new home.

One of the most important subjects considered by the Congress was that of ethics. The delegates discussed the accusations against general practitioners made by General Hawley in an interview published in a national weekly, together with the statement made by Dr. Evarts Graham, during the session, that the College of Surgeons assumed responsibility for Dr. Hawley's remarks as depicting their feelings. Several resolutions were introduced asking the A.M.A. to take cognizance of the situation and to do whatever may be necessary to prevent a rift among American doctors.

—WILLIAM SPROUL, M.D.

---

## POST-GRADUATE SCHEDULE 1953-1954

Des Moines—September 24 and 25, 1953  
(annual meeting)

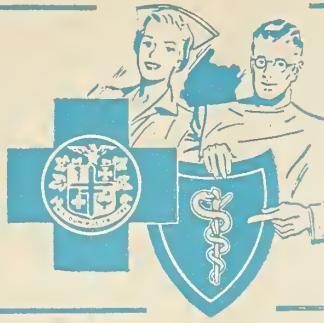
Fort Dodge—November 12, 1953

Des Moines—January 21, 1954



---

BLUE CROSS



BLUE SHIELD

---

...AND MY DOCTOR TOLD ME THAT  
TODAY EVERYONE NEEDS BLUE CROSS  
AND BLUE SHIELD MORE THAN EVER"



**YES, DOLLAR FOR DOLLAR, BLUE CROSS  
OFFERS IOWA'S BIGGEST HEALTH VALUE**

*Blue Cross* is sponsored by hospitals and, consequently, improvements in hospital services are reflected in the care paid for by *Blue Cross*. The use of new "miracle" drugs, costly, new equipment, improved medical techniques, all are added to *Blue Cross* benefits as soon as they are approved by the medical profession. These new services are costly, but they pay health dividends.

*Hospital* operating costs are steadily rising and hospitals must charge more to cover these costs. Higher wages, shorter working hours, rising costs of food, linens, dishes and many other items all

must be met by higher hospital bills. That means *Blue Cross* payments to hospitals are increased . . . providing greater member benefits in time of illness.

*More People* are being hospitalized today than ever before. Two years ago, one of every eight persons went to the hospital in a year. Today, one person out of every six requires hospitalization during a year. That means more members are using *Blue Cross* benefits . . . and it also means higher payments for *Blue Cross* to make.

All of these factors mean just one thing. . . . The benefits paid by *Blue Cross* have been constantly increasing while the payments made by members remained constant.

*Blue Cross* directors studied this problem thoroughly for almost a year before acting. Then the board made specific recommendations for future operations to meet this financial problem. Rate increases were established for certain groups, based on a three to five year study of utilization of contracts by members. However, there were no increases for some groups with low utilization or for Health Improvement Association members. Rate increases were authorized for new enrollments.

When you hear someone question the need for these higher *Blue Cross* rates, this is the answer. Present the facts that are outlined here. They show that *Blue Cross* benefits are a security bargain. Today, more than ever before, everyone needs *Blue Cross*, the greatest value in worry-free health protection.

Next issue the new, liberalized coverage on *Blue Shield* contracts will be discussed. *Blue Shield* benefits, which have been increased to keep pace with the rising medical costs, will be presented in detail.

## Editorials

(Continued from page 188)

graduate training or in senior student programs prior to receipt of a professional degree."

*Liberalization of Commissioning Procedure.* The bill attempts to assure that a man's professional qualifications shall determine his commission.

*Termination of Reserve Commissions.* Unless an officer had obligations for reserve service not originating in the Doctor Draft Act, his reserve commission would terminate automatically upon completion of his active duty. This provision would be retroactive to September 9, 1950.

*Other Provisions.* Maximum induction age remains at 51. Aliens otherwise qualified for service would not remain ineligible for commissioning solely because of their alien status or because they have not declared their intention of becoming citizens. Technically this proposal would amend the Doctor Draft Act, which is a part of the basic Selective Service Act. The bill would move up the expiration date for the Doctor Draft Act from July 1, 1953, to July 1, 1955, when the Selective Service Act itself is scheduled to expire.

## BLUE CROSS AND BLUE SHIELD

More than 44,000,000 Americans are now enrolled in *Blue Cross* plans, and more than 25,000,000 in *Blue Shield*. Expressed as percentages of the entire population of the country, these figures mean that *Blue Cross* now covers 28 per cent and *Blue Shield* 16 per cent of all Americans.

Of the 87 *Blue Cross* plans, some of them covering an entire state and some of them embracing smaller areas, 36 exceed the national average. In

the Lehigh Valley area in Pennsylvania, 78 per cent of the population is covered by the non-profit hospital-care system; in the Rhode Island Plan 76 per cent of the population is covered; and in the Cleveland Plan 68 per cent. Upwards of 1,500,000 workers and dependents are enrolled in the steel industry *Blue Cross* Plan, the largest covering a single industrial group.

*Blue Cross* plans paid out \$570,000,000 in benefits to hospitals during 1952, a sum that represents 88.5 per cent of their income. The national average operating expense has been reduced to 7.64 per cent. *Blue Shield*, on the other hand, paid benefits totaling \$208,000,000, representing 80 per cent of its income.

Iowa physicians will do well to continue explaining to patients the advantages of voluntary participation in this type of insurance coverage.

## DOCTORS GIVE 12 PER CENT OF TIME

The average U. S. physician gives seven hours a week—12 per cent of his working hours—to charity patients. The dollar value of the charity work he does in a single year is more than \$3,000. These are figures published in the April issue of *Medical Economics*, a business magazine for doctors.

According to the results of the survey which the magazine made recently among its 134,000 M.D. readers, about seven out of ten doctors today do some charity work. High-income physicians tend to do more of it than low-income ones; and big city doctors, more than those in small towns.

The magazine also reports having discovered, on reviewing the results of its survey, that the average medical man, besides giving of his time, gives \$623 a year in cash.

The Seventh Annual Rocky Mountain Cancer Conference will be held in Denver on July 8 and 9. As in previous years, there will be eight guest speakers, and on the first evening a banquet and entertainment for both the doctors and their ladies. There is no registration fee.

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

HI-FORUM

May 7 ..... First Offender  
May 14 ..... Fears and Fancies

WSUI—Tuesday at 11:45 a.m.

EVERYDAY HEALTH PROBLEMS

May 5 ..... Alcoholism  
May 12 ..... Migraine Headaches  
May 19 ..... Allergies

Television broadcasts will be resumed in the fall.



---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

DIAGNOSTIC TESTS IN NEUROLOGY, by Robert Wartenberg, M.D., (The Year Book Publishers, Chicago, 1952, \$4.50).

MICROBIOLOGY AND PATHOLOGY, by Charles F. Carter, M.D., and Alice L. Smith, M.D., 5th Edition, (C. V. Mosby Co., St. Louis, 1953, \$5.50).

ON BURNS, compiled and edited by Nathan A. Womack, M.D., (Charles C Thomas, Springfield, Illinois, 1953, \$5.50).

## BOOK REVIEWS

(Additional Book Reviews on pages 199 and 203)

CLINICAL ALLERGY, by French K. Hansel, M.D., M.S., (The C. V. Mosby Co., St. Louis, \$17.50).

The author has written a voluminous text covering the whole subject of allergy, incorporating the limited one on "Allergy of the Nose and Para Nasal Sinuses," published in 1936.

This new volume, written with an eye to the general practitioner, as well as to the beginner in allergy, is remarkable for its elementary detail.

Over 900 pages long, it covers every phase of allergy, incorporating the latest laboratory, technical, and therapeutic advances between covers—from the laboratory preparation of allergenic extracts to chapters dealing with the applications of anti-histaminics, aerosols, and ACTH and Cortisone in allergy.

Because of the authors' wide experience and pre-eminence in the field of otolaryngology, it is only natural that this particular subject matter of allergy in relation to otolaryngology be given such particular attention. It is perhaps no exaggeration to say that no other text on allergy covers this ground so intimately and authoritatively.

Aside from what I considered some duplication of effort, this book is beyond criticism and should appeal to anyone interested in allergy, especially general practitioners, as well as men in the specialties, for it relates to each of their particular fields and is painstakingly thorough.—Louis H. Noun, M.D.

---

TEXTBOOK OF SURGERY, by H. F. Moseley, M.A., D.M., M.Ch., (Oxon), Professor of Surgery at McGill University, (C. V. Mosby Co., St. Louis, 1952, \$12.00).

Both medical students and practicing physicians will find in this work basic principles of surgery presented in an easily assimilable and comprehensive manner. This new surgical text is a composite-author summary by members of the staff at McGill University, Montreal. Controversial methods of modern management are presented in an only slightly weighted manner, so that more than one viewpoint is available for study.

The index denotes organization of subject matter under systems, together with chapters on certain specialties. Some fundamentals of surgery, such as reaction to injury and shock, are contained in separate chapters, but for the most part, the basic sciences, pathology and physiology, are outlined in the context

together with the condition discussed. For a book of this type, there are unusually many illustrations, including several good colored plates and many diagrams to increase the visual impression upon the reader. Student forums were conducted to channel the literary form and the topics to be covered in the book; hence the deletion of material on E.E.N.T. and gynecology.

This is a good text for the student and a useful reference volume for the practitioner, but it is of limited value to the operating surgeon.—J. Sullivan, M.D.

---

OPERATING ROOM TECHNIC, by the Sisters, St. Mary's Hospital, Rochester, Minn. (W. B. Saunders Co., Philadelphia, \$6.50.)

Operating room supervisors and instructors in nursing schools will find this excellent book helpful in the education and training of operating room personnel. The Sisters of St. Francis, St. Mary's Hospital, Rochester, Minn., deserve much credit for compiling in book form the results of their experience in the proper organization of the operating room.—E. M. George, M.D.

---

TOXEMIAS OF PREGNANCY, by William J. Dieckman, M.D., (St. Louis, C. V. Mosby Co., 2nd Edition, 1952, \$14.50).

All available knowledge of the toxemias of pregnancy is offered in this second edition. The author reviews literature of the past decade and includes the results of the investigations made by himself and his co-workers on the role of water balance and electrolyte changes in pregnancy, particularly as related to the toxemias.

One can easily see that few new facts are presented which may lead to the solution of the etiology of eclampsia. However, all pertinent information about the subject is presented, the material is well indexed and contains a very adequate bibliography.—Austin E. Schill, M.D.

---

1952 YEARBOOK OF PEDIATRICS, edited by Sidney S. Gellis, M.D., (The Year Book Publishers, Chicago, 1952, \$5.50).

This volume represents the work of a new editor. In the past, Henry G. Poncher, M.D., and J. B. Richmond, M.D., gave the reader editorial comments of great value and interest. To a physician who might not be aware of the many controversial facets of a subject, Poncher brought together the current concepts and then further illuminated them with practical commentaries in fine print. In this edition, Dr. Gellis carries on with the same successful plan.

Keeping abreast of the pediatric literature is a must for those whose practice includes children. The 1952 Year Book of Pediatrics continues to provide its readers with concise material which is well divided in its subject matter and indexed for quick reference.—C. L. Burr, M.D.

# STATE DEPARTMENT OF HEALTH

*Walter Diering*

## POLIOMYELITIS IN IOWA By County of Residence - 1952

This summary is our final tabulation of poliomyelitis for the year 1952. The increase in number of cases over those actually reported during the calendar year of 1952 is due to late reporting of about 100 cases. To meet new requirements of case reporting, physicians and hospitals are being asked to state whether each case is paralytic or non-paralytic as of the date of reporting.

### POLIOMYELITIS IN IOWA BY COUNTY OF RESIDENCE - 1952

COUNTY	NUMBER OF CASES	NUMBER OF DEATHS	NUMBER OF DEATHS PER 100 CASES	CASE RATES PER 100,000 EST. POP 'N.	DEATH RATES PER 100,000 EST. POP 'N.	Keokuk	7	-	-	42.6	-
Adair	8	-	-	66.2	---	Kossuth	16	-	-	61.2	-
Adams	9	1	11.1	106.7	11.9	Lee	10	-	-	23.0	-
Allamakee	11	-	-	68.1	-	Linn	50	1	2.0	46.4	0.9
Appanoose	6	-	-	32.2	-	Louisa	5	-	-	45.3	-
Audubon	9	-	-	78.0	-	Lucas	5	-	-	43.5	-
Benton	10	1	10.0	44.2	4.4	Lyon	17	1	5.9	116.9	6.9
Black Hawk	118	6	5.1	112.3	5.7	Madison	6	1	16.7	46.8	7.8
Boone	28	1	3.6	100.8	3.6	Mahaska	11	2	18.2	45.3	8.2
Bremer	15	-	-	78.5	-	Marion	9	-	-	35.0	-
Buchanan	6	1	16.7	27.1	4.5	Marshall	22	1	4.5	61.7	2.8
Buena Vista	49	5	10.2	229.0	23.4	Mills	19	-	-	137.3	-
Butler	31	-	-	179.6	-	Mitchell	20	1	5.0	143.8	7.2
Calhoun	61	1	1.6	363.6	6.0	Monona	97	5	5.2	611.3	31.5
Carroll	24	-	-	103.8	-	Monroe	3	-	-	26.8	-
Cass	38	6	15.8	205.3	32.4	Montgomery	27	-	-	172.2	-
Cedar	21	2	9.5	124.1	11.8	Muscatine	11	1	9.1	34.0	3.1
Cerro Gordo	51	1	2.0	109.6	2.1	O'Brien	51	2	3.9	269.9	10.6
Cherokee	159	1	.6	836.6	5.3	Osceola	14	-	-	138.8	-
Chickasaw	39	3	7.7	256.1	19.7	Page	52	2	3.8	219.4	8.4
Clarke	8	1	12.5	87.2	10.9	Palo Alto	10	-	-	63.2	-
Clay	68	1	1.5	374.0	5.5	Plymouth	80	1	1.3	344.9	4.3
Clayton	14	1	7.1	63.3	4.5	Pocahontas	11	-	-	71.8	-
Clinton	38	-	-	74.8	-	Polk	436	14	3.2	187.3	6.0
Crawford	38	1	2.6	194.3	5.1	Pottawattamie	138	7	5.1	196.2	10.0
Dallas	35	1	2.9	149.3	4.3	Poweshiek	13	1	7.7	66.7	5.1
Davis	9	-	-	92.8	-	Ringgold	4	-	-	43.6	-
Decatur	12	3	25.0	97.7	24.4	Sac	95	2	2.1	543.1	11.4
Delaware	11	2	18.2	62.6	11.4	Scott	55	7	12.7	52.7	6.7
Des Moines	10	-	-	23.1	-	Shelby	25	2	8.0	158.6	12.7
Dickinson	8	-	-	62.1	-	Sioux	43	4	9.3	164.2	15.3
Dubuque	67	4	6.0	91.7	5.5	Story	40	2	5.0	85.6	4.3
Emmet	6	-	-	42.1	-	Tama	25	2	8.0	116.2	9.3
Fayette	17	2	11.8	60.5	7.1	Taylor	13	-	-	108.3	-
Floyd	25	-	-	114.6	-	Union	11	-	-	70.9	-
Franklin	14	-	-	86.2	-	Van Buren	2	-	-	18.6	-
Fremont	11	1	9.1	93.2	8.5	Wapello	13	-	-	27.0	-
Greene	16	-	-	104.5	-	Warren	26	-	-	146.3	-
Grundy	27	-	-	196.1	-	Washington	30	4	13.3	154.3	20.6
Guthrie	26	-	-	176.3	-	Wayne	11	-	-	96.6	-
Hamilton	32	4	12.5	163.3	20.4	Webster	42	1	2.4	93.6	2.2
Hancock	25	-	-	166.6	-	Winneshiek	10	-	-	75.0	-
Hardin	19	-	-	85.8	-	Woodbury	32	1	3.1	148.8	4.7
Harrison	53	2	3.8	281.3	10.6	Worth	379	26	6.9	364.5	25.0
Henry	4	2	50.0	21.2	10.6	Wright	11	1	9.1	100.2	9.1
Howard	18	-	-	138.4	-	Wright	33	3	9.1	168.7	15.3
Humboldt	11	-	-	84.4	-	State Total	3564	155	4.3	135.0	5.9
Ida	59	1	1.7	555.7	9.4	1952					
Iowa	19	1	5.3	122.0	6.4	Year	1947	1948	1949	1950	1951
Jackson	6	-	-	32.4	-	No. of Cases	176	1236	1217	1399	466
Jasper	54	1	1.9	166.2	3.1	Case rate per					
Jefferson	10	1	10.0	63.8	6.4	100,000	6.8	47.7	46.7	53.6	17.7
Johnson	47	2	4.3	96.7	4.1						
Jones	14	-	-	72.6	-						



IOWA

DEATHS FROM SELECTED CAUSES\*

January 1952—January 1953

Selected Causes of Death	1952 Number	Rate**	1953 Number	Rate**	Increase or Decrease	% of Jan. 1952
ALL CAUSES .....	2112	961.5	2645	1200.4	+533	+ 25.2
Tuberculosis (all forms) .....	16	7.3	11	5.0	- 5	- 31.3
All other infective & parasitic diseases .....	15	6.8	22	10.0	+ 7	+ 46.7
Malignant neoplasms (cancer) .....	295	134.3	364	165.2	+ 69	+ 23.4
Diabetes mellitus .....	32	14.6	48	21.8	+ 16	+ 50.0
Vascular lesions affecting central nervous system (cerebral hemorrhage, etc.) ..	318	144.8	379	172.0	+ 61	+ 19.2
Diseases of the heart .....	817	371.9	951	431.6	+134	+ 16.4
General arteriosclerosis .....	51	23.2	82	37.2	+ 31	+ 60.8
Pneumonia & Influenza .....	88	40.1	254	115.3	+166	+188.6
(Pneumonia) .....	(74)	(33.7)	(139)	(63.1)	(+ 65)	(+ 87.8)
(Influenza) .....	(14)	(6.4)	(115)	(52.2)	(+101)	(+221.4)
Nephritis and nephrosis .....	36	16.4	39	17.7	+ 3	+ 8.3
Congenital malformations and certain dis- eases of early infancy .....	94	42.8	88	39.9	- 6	- 6.4
Accidents .....	95	43.2	116	52.6	+ 21	+ 22.1
(Motor-vehicle accidents) .....	(28)	(12.7)	(21)	(9.5)	(- 7)	(- 25.0)
All other causes .....	255	116.1	291	132.1	+ 36	+ 14.1

\* Provisional data  
January 15, 1952 Population 2,635,908

\*\* Rates per 100,000 estimated population  
January 15, 1953 Population 2,644,188

January 1953 was not a healthy month in Iowa. Two thousand, six hundred and forty-five deaths occurred in the state compared to a previous high figure of 2,656 in March 1950. As the above table indicates, this was an increase of 533 deaths over January 1952 or an increase of 25.2 per cent.

While increases occurred in most of the selected causes of death indicated above, the greatest increase was in Pneumonia and Influenza deaths, which showed a combined increase of 188.6 per cent. In March 1950 the large number of deaths was accompanied by a flu epidemic as was the case in January 1953.

It is encouraging to note that there was a decrease in congenital malformations and in motor vehicle fatalities.

The February deaths, which number 2,269, show a slight increase over a year ago and represent one of the larger February death tolls on record. If this present increase continues, we shall have the greatest number of deaths and the highest death rate in the history of the state before the year is over.

MORBIDITY REPORT

Disease	Mch. 1953	Feb. 1953	Mch. 1952	Most Cases From These Counties
Diphtheria	1	3	2	Crawford
Typhoid Fever	1	typhoid para 2	0	Cerro Gordo (paratyphoid) Clarke (typhoid)
Scarlet Fever	256	136	145	Allamakee, Des Moines, Polk, Woodbury
Smallpox	0	0	0	.....
Measles	1872	427	908	Boone, Linn, Montgomery, Page
Whooping Cough	9	5	16	Polk, Dubuque
Brucellosis	21	29	27	Cass 2, Cherokee 2, Grundy 2
Chickenpox	706	621	406	Black Hawk, Des Moines, Dubuque, Polk
Infectious Hepatitis	144	139	176	Lucas, Polk, Pottawattamie
Meningitis men.	2	5	5	Des Moines, Pottawattamie
Mumps	202	147	513	Dubuque, Linn, Pottawattamie
Poliomyelitis (non-para)	2	5	3	Dallas, Mahaska
Rabies in Animals	20	26	19	Humboldt, Poweshiek, Ringgold (2 each) others scattered 1 to a county
Tuberculosis	71	50	52	For the state
Gonorrhea	64	72	43	For the state
Syphilis	194	134	183	For the state

BOOK REVIEWS

(Additional Book Reviews on pages 197 and 203)

DISEASES OF THE HEART AND ARTERIES, by George R. Herrmann, M.D., Ph.D., (C. V. Mosby Co., St. Louis, 1952. Price, \$12.50).

This is the fourth edition of a popular teaching reference textbook by a noted American cardiologist. To compress modern knowledge of the circulatory diseases into what the author calls a "handbook" is a formidable undertaking, even when the handbook is expanded to more than 600 pages. The result, while commendable, does not make for easy or "light" professional reading. The text is all meat, and some of it so tough that it requires a great deal of chewing.

The new importance of cardiac surgery has been recognized by the introduction of a discussion of chapters on congenital and valvular heart diseases. There are timely and valuable discussions on emergency situations of cardiovascular origin, and on military cardiovascular examinations. Peripheral vascular diseases are somewhat summarily disposed of in a single chapter.

This is a valuable volume for the busy practitioner's working library, rather than for the reference shelf.—H. J. Smith, M.D.

ALCOHOLISM—WHAT CAN I DO ABOUT IT? by Leo B. Sedlacek, M.D., (privately printed, Cedar Rapids, 1953, \$2.50).

Alcoholism has become one of our major problems in these days of turmoil and mental strife. It is most encouraging to read this monograph, for in it an Iowa author makes definite constructive suggestions for handling the problem. Dr. Sedlacek has given three purposes for the publication of his book: to inform everyone properly regarding the facts about alcoholism; to encourage his readers to do something to alleviate the situation; and to regard the alcoholic as a sick person. The author has done a fine job in this book, for it is readable, logical, well-illustrated and augmented with a good bibliography. The physicians of Iowa would do well to publicize this monograph.—E. M. George, M.D.

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Black Hawk

The Black Hawk County Medical Society heard Dr. E. S. Brintnall, chief surgeon at the Iowa City Veterans' Hospital, speak on hiatal hernia at its meeting on March 17 at the Elks Club in Waterloo.

---

### Dallas-Guthrie

Dr. Herman J. Smith, of Des Moines, spoke on electrocardiography to the Dallas-Guthrie Medical Society at its meeting in the Women's Club, Guthrie Center, on March 18.

---

### Davis

The Davis County Medical Society and the Cancer Division of the State Department of Health were joint sponsors of the dinner meeting at Bloomington on March 18 at which Dr. Gordon McNeer, of New York City, one of the country's outstanding cancer specialists, was principal speaker. The dinner and social hour were provided for by the staff of the Gilfillan Clinic.

---

### Delaware

At the regular meeting of the Delaware County Medical Society held on March 9, L. J. Halpin, M.D., of Cedar Rapids, discussed the diagnosis and treatment of seasonal allergies.

---

### Johnson

At the April meeting of the Johnson County Medical Society, at the Hotel Jefferson, Iowa City, Dr. Frank Coburn, of the Department of Psychiatry at SUI, spoke on "The Role of Public Health in Mental Hygiene," and Dr. Hunter C. Comly, of the same department, presented a case report.

---

### Harrison

Movies on routine E.N.T. examinations and on early diagnosis of tumors of the breast were shown to the members of the Harrison County Medical Society at their meeting on March 11.

---

### Lee

The program at the March 26 meeting of the Lee

County Medical Society consisted of papers read by two SUI staff members. Dr. I. F. Ponseti spoke on "Hip Disorders in Children," and Dr. Robert Jackson on "Treatment of Children with Rheumatic Fever and Diabetes." Dinner was served after the meeting.

---

### Polk

Dr. Edward H. Carleton, medical director of the Inland Steel Company, addressed the scientific meeting of the Polk County Medical Society held at the Armstrong Rubber Manufacturing Co. plant, in Des Moines, on March 18. Dr. Carleton's paper, "What Constitutes a Compensation Case," is to be published in the Journal of the Iowa State Medical Society.

---

### Scott

At the April meeting of the Scott County Medical Society, Dr. George Scanlon, of Iowa City, spoke to the members regarding the Iowa State Medical Society Educational Fund, and Dr. Carl H. Gillies, professor of radiology at SUI, presented a paper on "Mechanisms of Fractures of the Ankle."

---

### Wapello

On April 7, 1953, the Wapello County Medical Society elected the following new officers: D. E. Emanuel, M. D., President; W. E. Herrick, M.D., Vice-President; and Edw. B. Hoeven, M.D., Secretary-treasurer. C. A. Henry, M.D., and Wilson C. Wolfe, M.D., were named delegates to the state annual meeting, with K. E. Lister, M.D., and Dr. Hoeven as alternates.

---

### Winnebago and Hancock

The Winnebago and Hancock Medical Society heard an address by Dr. C. O. Adams, of Mason City, a specialist in orthopedics, at its meeting on March 12, at the Bungalo Cafe, in Forest City.

---

### Woodbury

Dr. J. Dewey Bisgard, professor of thoracic surgery at the University of Nebraska, addressed the Woodbury County Medical Society on March 19, at the Mayfair Hotel, Sioux City. His subject was "Indications for Pulmonary Resection."



## PERSONALS

**Dr. Richard B. Leander**, a diplomate of the American Board of Psychiatry, has joined **Dr. W. E. Ash** and **Dr. J. D. Mahoney** in the practice of neuropsychiatry at the Council Bluffs Clinic. Dr. Leander has done that work in the Navy for the past ten years, his latest assignment being the directorship of the Naval Psychiatric Hospital at Portsmouth, New Hampshire.

---

**Dr. R. D. Daut**, of Davenport, an Air Force Reserve captain, has been ordered to temporary duty at Gunter Air Force Base, Montgomery, Alabama. Subsequently, he will be Chief Urologist in the hospital at Wendover Air Force Base, Chicopee, Massachusetts. During his absence, his associates **Dr. J. S. Roane** and **Dr. J. A. Miller** will conduct urologic practice in the offices Dr. Daut has shared with them.

---

**Dr. J. L. Garred**, of Whiting, left on March 16 for a tour of active duty with the Navy.

---

Ten Cedar Falls physicians have agreed to donate \$15,000 of the \$50,000 remaining to be raised for the expansion of the Sartori Memorial Hospital there. The committee in charge of fund raising expects to raise the remainder by May 1.

---

**Dr. Frank G. Ober**, of Burlington; **Dr. Gerald Caughlan**, of Council Bluffs; and **Dr. D. C. Konzett**, of Dubuque attended the recent special session of the AMA House of Delegates as representatives from Iowa. Three other Iowa physicians, including the president of the Iowa State Medical Society, **Dr. Ben Whitaker**, of Boone, also attended.

A scholarship from the fund established by the John and Mary R. Markle Foundation has been awarded to **Dr. Jack Davies**, assistant professor of anatomy at SUI. The scholarships, totaling \$3,200,000 to date, have been given this year to 21 of the 54 candidates nominated by the faculties of American medical schools and are intended to encourage promising medical research men to pursue their investigative work, rather than to enter private practice. Dr. Davies is a Yorkshireman who first came to SUI on a Rockefeller scholarship. After taking his M.D. at Iowa, he returned to England for further study, received another M.D., and taught anatomy at Cambridge University before returning to Iowa City. He will draw his Markle stipend, \$6,000 per year for five years, while he continues his study of the anatomical and physiological development of the mammalian fetus.

---

**Dr. Gordon E. Rahn**, of Mt. Vernon, a lieutenant jg. in the Naval Reserve, spent the latter half of

March at the Bethesda Naval Hospital taking a short-course in the medical aspects of special weapons and radioactive isotopes.

---

**Dr. Robert T. Tidrick**, head of the Department of Surgery, State University of Iowa, has been elected president of the Iowa chapter of the honorary scientific fraternity Sigma Xi. Dr. Tidrick has interested himself principally in vitamin-K deficiencies, surgical aspects of bone fractures, and problems of post-operative care.

---

**Dr. Verne Heimann**, of Sioux City, has been elected president of the Sioux Valley Eye, Ear, Nose and Throat Academy.

---

**Dr. Stuart C. Cullen**, head of the Department of Anesthesiology at the SUI College of Medicine, returned recently from a visit to India. Dr. Cullen was one of fifteen medical scientists from eight different countries sent by the Unitarian Church and the World Health Organization to meet with Indian physicians, medical educators and public health authorities in Bombay and Madras.

---

**Dr. Mary Louise Tinley**, who has practiced medicine at Council Bluffs since 1895, was selected national Woman of the Year and was presented an inscribed gold bracelet to commemorate that recognition on March 25. Her patients and friends who nominated her spoke particularly of her going her rounds on crutches after she had broken her hip three years ago.

---

**Dr. J. A. Broman** expects within the next two months to leave his practice at Maquoketa for two years of service with the Army Medical Corps. Mrs. Broman and their four children will remain in Maquoketa.

---

The Waterloo Courier for March 22, 1953, carried the announcement that **Dr. Donald Trefz** and **Dr. Donald Sinkey**, now at Broadlawns Hospital, Des Moines, will open an office for general practice in Osage, Iowa, on July 1.

---

**Dr. George L. Robinson**, of Waterloo, has announced his intention of undertaking general practice at Hudson, Iowa. A graduate of the University of Colorado Medical School, he has been a director of the Waterloo Blood Center and an anesthetist since the end of his military service, in 1945.

---

**Dr. W. M. Page**, of Montezuma, has received orders to report for induction into the Army on

April 29. Deferment petitions for him are being circulated in the town.

After eight months' practice in the town of Eldora, **Dr. E. E. Linder** has announced that he will replace **Dr. H. F. Jenkins** at Ogden. Dr. Jenkins, who has been the only doctor of medicine in Ogden, a town of 1450 people, is leaving for medical service with the armed forces.

On July 1, **Dr. Edmund G. Zimmerer** is to succeed **Dr. Walter L. Bierring** as state commissioner of health. Dr. Zimmerer, who received his education at St. Mary's College, in Kansas, at Creighton University, and at Harvard University, has been director of the Division of Cancer Control in the Health Department since 1940. His term of office will expire June 30, 1957.

**Dr. Richard D. Eckhardt**, of the Iowa City Veterans' Hospital, has been recalled to naval duty and has left for his assignment at the Portsmouth, Virginia, navy yard. His wife and two daughters will join him there later.

On April 1, **Dr. Harlow Fishman**, who for the past four years has practiced at Holstein, joined **Dr. J. H. Wise** and **Dr. J. F. Lawlor** at Cherokee.

**Dr. C. E. Lovett**, of Lineville, has announced his retirement and the sale of his practice to **Dr. G. F. Davison**, of Mercer, Missouri. Dr. Lovett is 69.

**Dr. James O. Moermond**, a 1952 graduate of the SUI medical school, will set up practice at Hull immediately on the completion of his internship at Duluth, Minnesota, on July 1.

## DEATHS

**Dr. J. I. Kelly**, 81, of Burlington, died at Fort Myers, Florida, March 28, when the explosion of a gas stove enveloped his trailer in flames. Dr. Kelly had retired after fifty years as a physician and seventeen years as company surgeon for the Burlington Railroad.

**Dr. A. W. Bennett**, 62, of Iowa City, died while he slept at his home on April 11. Dr. Bennett had received his education at the State University of Iowa, he had taught anatomy there briefly, and had practiced in Iowa City since 1919. In his memory, the Iowa State Medical Society is establishing a fund from which loans will be made to medical students.

**Dr. William Boyd Hight**, 78, died March 31 at the Retreat, in Des Moines, where he had been a patient for several months. Dr. Hight began practicing in his home town, Queen City, Missouri, more than forty years ago, and moved to Des Moines in 1910, where he continued practicing until last summer. He was buried on April 3 in the Glendale Masonic Cemetery, in Des Moines.

**Dr. David Williams**, 86, a retired physician who had practiced in Logan for nearly half a century, died at his home there on April 2. Dr. Williams came here from Wales when he was less than a year old, spent his boyhood at Crescent and received his medical education at Omaha Medical College, now the University of Nebraska College of Medicine. He was buried at Creston on April 4.

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of April 10, 1953

Ackerman, J. H., Clarksville  
(Tallahassee, Fla.) ... Senior, Asst. Surg., U.S.P.H.S.  
Arnold, K. E., Sioux City  
(Port Hueneme, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Ashby, J. D., Davenport  
(Battle Creek, Mich.) ..... Major, U.S.A.  
Bartholomew, R. D., Lake City  
(Walnut Creek, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Benton, J. S., Des Moines ..... 1st Lt., A.U.S.  
Bogle, W. C., Marion  
(Great Lakes, Ill.) ..... Lt., U.S.N.R.  
Braatlien, N. T., Des Moines  
(Camp Carson, Colo.) ..... 1st Lt., U.S.A.F.  
Brennan, J. E., Des Moines  
(Camp Pendleton, Calif.) ..... Lt., U.S.N.R.  
Buzan, E. F., Des Moines  
(Spring Grove, Ill.) .....  
Cline, H. L., Iowa City  
(Denver, Colorado) ..... A.U.S.  
Couchman, P. G., Des Moines  
(San Antonio, Tex.) ..... 1st Lt., U.S.A.F.  
Daut, R. D., Davenport (Gunter Air Force  
Base, Montgomery, Ala.) ..... Capt., U.S.A.F.  
Davidson, M. C., Emmetsburg  
(El Paso, Tex.) ..... Col., A.U.S.  
Donahoe, J. F., Fort Dodge  
(Des Moines, Iowa) ..... 1st Lt., A.U.S.  
Dooley, J. E., Fort Dodge  
(Pleasanton, Calif.) ..... Capt., U.S.A.F.  
Eckhardt, R. D., Iowa City  
(Portsmouth, Virginia) ..... Lt., U.S.N.R.  
From, Paul, West Des Moines  
(San Antonio, Texas) ..... 1st Lt., U.S.A.F.  
Garred, J. L., Whiting  
(San Diego, Calif.) ..... U.S.N.R.  
Gladstone, W. S., Jr., Iowa City  
(Crestview, Fla.) ..... U.S.A.F.  
Godbey, M.D., Mt. Pleasant  
Greco, D. J., Des Moines  
(APO San Francisco, Calif.) ..... 1st Lt., A.U.S.  
Hickman, D. M., Indianola  
(Gunter AFB, Ala.) ..... 1st Lt., U.S.A.F.  
Horton, R. R., Algona  
(Seattle, Wash.) ..... Lt., U.S.N.R.  
Iwen, G. W., Iowa City  
Jenkins, H. L., Ogden



Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) .....Capt., U.S.A.F.  
Johnson, M. H., Iowa City  
(APO New York, N. Y.) .....Capt., A.U.S.  
Kenney, B. E., Woodbine .....1st Lt., U.S.A.F.  
Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) .....Lt., U.S.N.R.  
Kuehn, W. G., Clarinda  
(APO San Francisco, Calif.) ....Lt. (j.g.), U.S.N.R.  
Kuehnle, G. R., Dubuque  
(Baton Rouge, La.) .....  
Kurth, R. J., Waterloo  
(Minneapolis, Minn.) .....Capt., U.S.A.F.  
Leiter, E. R. K., Des Moines  
(Bangor, Me.) .....Capt., U.S.A.F.  
Martins, J. K., Waterloo  
(New London, Conn.) .....Lt., U.S.N.R.  
Middleton, W. H., Central City  
(Quantico, Va.) .....U.S.N.R.  
Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) .....Lt. Col., A.U.S.  
Neagle, P. E., Dubuque  
(Sault Ste. Marie, Mich.) .....Capt., A.U.S.  
Paul, R. E., Des Moines  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.  
Pfaff, R. A., Dubuque  
(Camp Pendleton, Calif.) ..... Lt., U.S.N.R.  
Prendergast, L. J., Iowa City  
(Oceanside, California) ..... U.S.N.R.  
Puntenney, A. W., Boone  
(Portsmouth, Va.) .....Lt., U.S.N.R.  
Rhode, M. C., Iowa City  
(Philadelphia, Pa.) .....  
Ruble, R. L., Nevada  
(Camp Chaffee, Ark.) .....A.U.S.  
Saunders, R. J., Colfax  
(APO San Francisco, Calif.) ..... 1st Lt., U.S.A.F.  
Schlichtemeier, E. O., Peterson  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.  
Shaffer, F. J., Iowa City .....Col., U.S.A.F.  
Shulldberg, Arthur, Des Moines  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.  
Smith, C. B., Iowa City  
(Bowling Green, Ky.) .....Capt., A.U.S.  
Spohnheimer, L. N., Donnellson  
(Gunter Air Force Base, Alabama) 1st Lt., U.S.A.F.  
Stutsman, R. E., Washington  
(Miami, Fla.) .....Cmdr., U.S.N.  
Sugioka, Kenneth, Iowa City  
(Long Island, N. Y.) ..... A.U.S.  
Theilen, E. O., Iowa City  
(Washington, D. C.) .....Capt. A.U.S.  
Thistlewaite, E. A., Des Moines  
(Riverside, Calif.) .....1st Lt., U.S.A.F.  
Thompson, J. W., Ames .....  
Thornton, F. E., Des Moines  
(Portsmouth, Va.) .....Lt. Cmdr., U.S.N.R.  
Tice, W. K., Iowa City  
(Kansas City, Kan.) .....1st Lt., A.U.S.  
Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) .....1st Lt., A.U.S.  
Uchiyama, J. K., Des Moines  
(Wichita Falls, Texas) ..... 1st Lt., U.S.A.F.  
Vincent, J. F., Fort Dodge  
(Langley A.F.B., Va.) .....Capt., U.S.A.F.  
von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) .....Lt., U.S.N.R.  
Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) .....U.S.N.R.  
Walker, J. R., Waterloo  
(Bethesda, Maryland) ..... Lt., U.S.N.R.  
Walston, J. H., Graettinger  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.  
Watson, C. F., Stacyville  
(Hot Springs, Ark.) .....U.S.P.H.S.

Wehrmacher, W. H., Iowa City  
(Oceanside, Calif.) .....U.S.N.R.  
Wiedemeier, J. L., Sioux City  
(APO San Francisco, Calif.) .....1st Lt., A.U.S.  
\*Wilkins, D. S., Iowa City  
(APO San Francisco, Calif.) .....Capt., A.U.S.  
Witte, H. J., Marathon  
(San Francisco, Calif.) .....Lt. Col., A.U.S.  
Young, R. A., Clarion  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.  
Zeilenga, R. H., Orange City  
(Madison, Wisc.) .....1st Lt., U.S.A.F.

\* Deceased

## BOOK REVIEWS

(Additional Book Reviews on pages 197 and 199)

THE 1952 YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY, edited by *Edward L. Compere, M.D.*, (The Year Book Publishers, Chicago, 1953, \$6.00).

Dr. Compere has again presented the significant advances made in the field of orthopedic and traumatic surgery published during the past year. He has described the use of the many new chemical compounds that have been evaluated during the period. This book is invaluable as a reference guide for the busy surgeon and student alike.—*E. M. George, M.D.*

CURRENT THERAPY 1953, edited by *Howard F. Conn, M.D.*, (W. B. Saunders Company, Philadelphia, 1953, \$11.00).

It may appear trite to state in a book review that "this book should appear in every practicing physician's library," but this is one book that *really* deserves that recommendation. Dr. Conn does a marvelous job each year in gathering together authoritative, brief statements on the treatment of disease, from many authors. This year's volume contains contributions by about 350 authors, 209 of whom are new this year. Such shuffling of authors from year to year is a happy idea, for it gets away from the stereotyped statements which any one author would be tempted to make if he were to contribute to the same volume year after year. Furthermore, it gives added value to the older editions of *Current Therapy*, for they contain opinions of different authors.

This book is designed for the doctor's office, for quick, easy reference. The longest article can be read in ten minutes. Most short subjects can be scanned in a minute or so. Almost every disease or condition is mentioned. Congratulations again to Dr. Conn!—*Daniel A. Glomset, M.D.*

BRAIN SURGEON, by *William Sharpe, M.D.*, (The Viking Press, New York, 1952, \$3.75).

This is a whimsical saga of the pioneer neurosurgeon in New York who first lent emphasis to the early recognition and treatment of cerebral birth palsy.

It is an interesting presentation of a varied career in the specialty and an earnest plea for more tolerance toward race and creed by all humans. Also, Dr. Sharpe's insistence on a permit for autopsy on all patients to whom he proposed surgery is an indication of his honest approach to many difficult problems.—*Walter D. Abbott, M.D.*

# COUNTY MEDICAL SOCIETY OFFICERS

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	L. H. Ahrens, Fontanelle.....	A. J. Gantz, Greenfield.....	A. S. Bowers, Orient
Adams.....	A. W. Brunk, Prescott.....	J. C. Nolan, Corning.....	A. W. Brunk, Prescott
Allamakee.....	M. F. Kiesau, Postville.....	R. R. Jeffries, Waukon.....	J. W. Thornton, Lansing
Appanoose.....	C. F. Brummitt, Centerville.....	A. S. Owca, Centerville.....	E. A. Larsen, Centerville
Audubon.....	R. H. Payne, Exira.....	A. B. Cloud, Audubon.....	L. E. Jensen, Audubon
Benton.....	L. W. Kooztz, Vinton.....	N. C. Knosp, Belle Plaine.....	N. C. Knosp, Belle Plaine
Black Hawk.....	G. A. Bairnson, Cedar Falls.....	Ross Randall, Waterloo.....	Craig D. Ellyson, Waterloo
Boone.....	R. S. Shane, Pilot Mound.....	D. C. Michaelson, Boone.....	
Bremer.....	H. W. Rathe, Waverly.....	R. P. Hardwig, Waverly.....	F. R. Sparks, Waverly
Buchanan.....	J. W. Barrett, Jr., Independence.....	J. F. Loeck, Independence.....	J. F. Loeck, Independence
Buena Vista.....	J. A. Cornish, Storm Lake.....	T. E. Shea, Storm Lake.....	H. E. Farnsworth, Storm Lake
Butler.....	M. D. Enna, Dumont.....	F. F. McKean, Allison.....	Bruce Ensley, Shell Rock
Calhoun.....	R. G. Klockslem, Rockwell City.....	Ashton McCrary, Lake City.....	W. W. Weber, Pomeroy
Carroll.....	P. L. Pascoe, Carroll.....	J. M. Tierney, Carroll.....	J. R. Martin, Carroll
Cass.....	J. F. Moriarty, Atlantic.....	D. E. Wilcox, Atlantic.....	W. F. Giegerich, Atlantic
Cedar.....	H. E. O'Neal, Tipton.....	O. E. Kruse, Tipton.....	P. M. Hoffman, Tipton
Cerro Gordo.....	C. W. Thomas, Mason City.....	J. E. Christopherson, Mason City.....	L. W. Swanson, Mason City
Cherokee.....	D. C. Koser, Cherokee.....	J. B. Blair, Cherokee.....	C. E. Broderick, Cherokee
Chickasaw.....	A. L. Murphey, Fredericksburg.....	J. H. Ahrens, New Hampton.....	
Clarke.....	C. R. Harken, Osceola.....	H. N. Boden, Osceola.....	H. E. Stroy, Osceola
Clay.....	G. F. Fieselman, Spencer.....	C. C. Jones, Spencer.....	C. C. Jones, Spencer
Clayton.....	T. W. Lichter, Edgewood.....	A. R. Powell, Elkader.....	P. R. V. Hommel, Elkader
Clinton.....	R. E. Dwyer, Clinton.....	D. F. Mirick, Clinton.....	A. M. Cochran, Adel
Crawford.....	J. M. Hennessey, Manilla.....	R. M. Johnson, Denison.....	R. M. Johnson, Denison
Dallas-Guthrie.....	A. G. Felter, Van Meter.....	W. C. Wildberger, Perry.....	C. A. Nicoll, Panora
Davis.....	E. O. Gilfillan, Bloomfield.....	W. D. Haufe, Bloomfield.....	G. W. Gilfillan, Bloomfield
Decatur.....	T. R. Viner, Leon.....	G. W. Swanson, Lamoni.....	W. N. Doss, Leon
Delaware.....	R. E. Clark, Manchester.....	J. E. Tyrrell, Manchester.....	J. W. Willett, Manchester
Des Moines.....	H. Eastburn, Burlington.....	J. F. Sulzbach, Burlington.....	F. G. Ober, Burlington
Dickinson.....	J. J. Buchanan, Milford.....	R. F. Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park
Dubuque.....	L. A. Faber, Dubuque.....	P. J. Laube, Dubuque.....	D. F. Ward, Dubuque
Emmet.....	L. E. Collins, Estherville.....	E. K. Vaubel, Estherville.....	C. S. Kirkegaard, Estherville
Fayette.....	L. W. Ward, Oelwein.....	R. S. Jaggard, Oelwein.....	A. F. Grandinetti, Oelwein
Floyd.....	H. A. Tolliver, Charles City.....	E. V. Ayers, Charles City.....	R. A. Fox, Charles City
Franklin.....	W. L. Randall, Hampton.....	Dorothy Heuerman, Coulter.....	W. L. Randall, Hampton
Freemont.....	R. Lovelady, Sidney.....	G. F. Canady, Jefferson.....	R. Lovelady, Sidney
Greene.....	E. D. Thompson, Jefferson.....	J. E. Rose, Grundy Center.....	M. H. Brinker, Jefferson
Grundy.....	A. A. Reedholm, Grundy Center.....	W. B. McCahey, Stratford.....	E. A. Reedholm, Grundy Center
Hamilton.....	R. A. Patterson, Webster City.....	K. J. Kroach, Buffalo Center.....	B. F. Howar, Webster City
Hancock-Winnebagos.....	L. W. Eller, Kanawha.....	F. N. Cole, Iowa Falls.....	C. V. Hamilton, Garner
Hardin.....	R. A. Eckburg, Hubbard.....	F. X. Tamisea, Missouri Valley.....	L. F. Parker, Iowa Falls
Harrison.....	Hans Hansen, Logan.....	J. G. Widmer, Wayland.....	J. R. Beebe, Mt. Pleasant
Henry.....	J. R. Beebe, Mt. Pleasant.....	D. O. Maland, Cresco.....	P. A. Nierling, Cresco
Howard.....	P. A. Nierling, Cresco.....	A. E. Jensen, Humboldt.....	I. T. Schultz, Humboldt
Humboldt.....	A. S. Arent, Humboldt.....	J. B. Dressler, Ida Grove.....	M. W. Grubb, Galva
Ida.....	E. H. Hillman, Ida Grove.....	I. J. Sinn, Williamsburg.....	C. F. Watts, Mango
Iowa.....	A. Miller, North English.....	J. J. Tilton, Bellevue.....	F. J. Swift, Maquoketa
Jackson.....	O. L. Frank, Maquoketa.....	L. D. Norris, Newton.....	J. W. Ferguson, Newton
Jasper.....	L. H. Koelling, Newton.....	Frank H. McClurg, Fairfield.....	R. A. McGuire, Fairfield
Jefferson.....	Ludwig Gittler, Fairfield.....	J. S. Greenleaf, Iowa City.....	G. C. Albright, Iowa City
Johnson.....	A. E. Braley, Iowa City.....	R. W. Myers, Monticello.....	T. M. Redmond, Anamosa
Jones.....	C. R. Smith, Wyoming.....	John Maxwell, What Cheer.....	D. L. Grothaus, Delta
Keokuk.....	A. M. Harwood, Sigourney.....	J. M. Schutter, Algona.....	J. G. Clapsaddle, Burt
Kossuth.....	L. O. Snook, Wesley.....	W. B. Kasiske, Keokuk.....	L. C. Pumphrey, Keokuk
Lee.....	B. D. Van Werden, Keokuk.....		F. L. Feightner, Fort Madison
Linn.....	J. S. McQuiston, Cedar Rapids.....	J. F. Kanealy, Cedar Rapids.....	J. H. Chittum, Wapello
Louisa.....	E. S. Groben, Columbus Jct.....	J. H. Chittum, Wapello.....	J. H. Chittum, Wapello
Lucas.....	H. D. Jarvis, Chariton.....	R. E. Anderson, Chariton.....	R. E. Anderson, Chariton
Lyon.....	H. H. Gessford, George.....	S. H. Cook, Rock Rapids.....	S. H. Cook, Rock Rapids
Madison.....	R. W. Carson, Winterset.....	J. E. Evans, Winterset.....	C. B. Hickenlooper, Winterset
Mahaska.....	E. B. Wilcox, Oskaloosa.....	G. S. Atkinson, Oskaloosa.....	E. B. Wilcox, Oskaloosa
Marion.....	R. B. May, Knoxville.....	J. W. Doles, Knoxville.....	H. L. Bridgeman, Knoxville
Marshall.....	R. M. Wolfe, Marshalltown.....	H. E. Sauer, Marshalltown.....	R. C. Carpenter, Marshalltown
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	T. E. Shonka, Malvern
Mitchell.....	C. F. Watson, Stacyville.....	R. B. Isham, Osage.....	J. O. Eiel, Osage
Monona.....	J. L. Garred, Whiting.....	P. L. Wolpert, Onawa.....	C. W. Young, Onawa
Monroe.....	R. A. Smith, Albia.....	H. J. Richter, Albia.....	H. J. Richter, Albia
Montgomery.....	F. A. Hansen, Red Oak.....	H. C. Bastron, Red Oak.....	E. L. Croxdale, Villisca
Muscataine.....	R. W. Asthalter, Muscatine.....	L. H. Whitmer, Muscatine.....	C. P. Phillips, Muscatine
O'Brien.....	A. D. Blendeman, Paullina.....	W. S. Balkema, Sheldon.....	T. D. Kas, Sutherland
Osceola.....	E. S. Aeltz, Sibley.....	F. M. Rizzo, Sibley.....	F. M. Rizzo, Sibley
Page.....	G. H. Powers, Shenandoah.....	S. T. Ramsdell, Clarinda.....	C. H. Flynn, Clarinda
Palo Alto.....		C. C. Moore, Emmetsburg.....	H. L. Brereton, Emmetsburg
Plymouth.....	R. J. Fisch, LeMars.....	L. C. O'Toole, Le Mars.....	H. L. Vander Stoep, Le Mars
Pocahontas.....	W. F. Brinkman, Pocahontas.....	C. L. Jones, Gilmore City.....	C. L. Jones, Gilmore City
Polk.....	F. M. Burgess, Des Moines.....	F. C. Coleman, Des Moines.....	M. T. Bates, Des Moines
Pottawattamie.....	H. W. Mathiesen, Council Bluffs.....	A. M. Pedersen, Council Bluffs.....	G. V. Caughlan, Council Bluffs
Poweshiek.....	J. R. Parish, Grinnell.....	L. C. Hickerson, Brooklyn.....	S. D. Porter, Grinnell
Ringgold.....		J. W. Hill, Mt. Ayr.....	E. J. Watson, Diagonal
Sac.....	J. H. Stalford, Sac City.....	L. D. Amick, Sac City.....	C. E. Lierman, Lake View
Scott.....	J. F. Bishop, Davenport.....	A. B. Hendricks, Davenport.....	P. A. White, Davenport
Shelby.....	L. V. Larson, Harlan.....	J. H. Spearing, Harlan.....	J. H. Spearing, Harlan
Sioux.....	M. O. Larson, Hawarden.....	C. B. Murphy, Alton.....	William Doornink, Orange City
Story.....	G. E. Montgomery, Ames.....	W. B. Armstrong, Ames.....	J. D. Conner, Nevada
Tama.....	C. W. Mapleshorpe, Jr., Toledo.....	A. J. Havlik, Tama.....	A. J. Havlik, Tama
Taylor.....	R. W. Boulden, Lenox.....	H. C. Moore, Clearfield.....	G. W. Rimel, Bedford
Union.....	J. L. Hoyt, Creston.....	H. J. Peggs, Creston.....	H. G. Beatty, Creston
Van Buren.....		J. T. Worrell, Keosauqua.....	L. A. Coffin, Farmington
Wapello.....	W. C. Wolfe, Ottumwa.....	E. B. Hoeven, Ottumwa.....	C. A. Henry, Farson
Warren.....	C. A. Trueblood, Indianola.....	R. C. McGeehan, Indianola.....	C. A. Trueblood, Indianola
Washington.....	G. J. Nemmers, Washington.....	W. S. Kyle, Washington.....	M. L. McCreedy, Washington
Wayne.....	L. B. Calbreath, Humeston.....	C. F. Brubaker, Corydon.....	J. H. McCall, Allerton
Webster.....	F. S. Larsen, Fort Dodge.....	J. R. Kersten, Fort Dodge.....	C. J. Baker, Fort Dodge
Winnebiek.....	L. E. Larson, Decorah.....	A. F. Fritchen, Decorah.....	L. C. Kuhn, Decorah
Woodbury.....	R. C. Mugan, Sioux City.....	P. W. Osincup, Sioux City.....	D. B. Blume, Sioux City
Worth.....	G. S. Westly, Manly.....	B. H. Osten, Northwood.....	G. S. Westly, Manly
Wright.....	R. C. Eaton, Clarion.....	J. R. Christensen, Eagle Grove.....	S. P. Leinbach, Belmont



# *The* JOURNAL

*of the*

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, JUNE, 1953

No. 6

### PRESIDENT'S ADDRESS

BEN T. WHITAKER, M.D.  
BOONE

EVERY BUSINESS organization finds it expedient once a year to take an inventory, and I feel that as we start our second century it would be wise for us to do the same briefly for the Iowa State Medical Society.

What have we done? Where are we? Where are we going? These questions should receive some consideration and thought, not by your officers alone, but by every member of the Society.

During the large part of the first century of our existence, our motivating purpose was, as it should have been, the increase in scientific knowledge of the members. Public relations was unknown during those early years, for the doctor with his black bag and horse and buggy personified this work in the highest degree. And how much we could learn from those pioneers! During this period, our organization had no vital problems facing it—at least not affecting the destruction of free medicine. The Society ran itself with a small overhead and not much sacrifice of time by the officers, but because structurally a good organization was built, we were not totally unprepared for the past five years.

In 1947 and 1948 there was beginning to be some discussion about public relations, and Blue Shield was sponsored by the State Society, but the real test came when Truman attempted to force Socialized Medicine upon us. The handbook for 1948 shows the dues were raised from 10 to 15 dollars with a small balance. There had been a few committee meetings, but no generalized activity. Then in 1948 the expansion started, in personnel, salaries, office expense, many active committees, and varied activities, in an attempt to save the practice of medicine that we had known. This program of education, from the AMA down through the State Societies, achieved what seemed the impossible. The direct assault of the socialized planners was stopped. We must not forget, however, that the trust the public showed in us has added a greater responsibility upon us: to live up to that confidence.

Where are we at today? It is true that the last election gave much hope to the opponents of socialism, but we must not let our guard down, for many of the old planners are still in the government, and the Ewings, through various organizations, are quietly but shrewdly attempting to get a foot in the door. So, it will be necessary for organized medicine to maintain a strong and alert organization during the years to come, not only to fight the threat of socialized medicine, but also to keep our own house in order so that we may maintain the confidence of the public. Furthermore, we must not simply take a negative attitude, but must maintain a forward looking approach to the medical problem and offer some positive solution, or some one will do it for us. The State Society today is an organization respected and recognized as a strong influence in Iowa. Our advice and help have been sought by lay organizations and by the official boards of the state.

Your officers have tried to meet this challenge, and we believe we have made friends and have done the people of Iowa a service. We have had over 20 committees working this year studying and reporting on all phases of health activities. We have an efficient staff at the central office, and the amount of detail work handled there would amaze anyone not familiar with it. This work comprises not only Society business, but also constant demands from lay organizations and the press for information and assistance. We have become a big business.

The office outgrew its quarters and larger ones had to be acquired. When the Trustees found it would require \$500 a month to rent a suitable space, they wisely asked the Executive Council a year ago for authority to buy a lot and construct a building. Their report shows you what a good business proposition it was. The building is not pretentious, but practical and workable, and it will make a permanent home for many years to come. I feel the Trustees deserve much praise for what they have done.

Blue Shield is steadily growing, and though new problems are constantly arising, some of which are controversial, the officers have wisely pursued a conservative policy, and it is in splendid financial shape.

## IOWA CITY

A few words about the Medical School at Iowa City. After more than three years, a dean has been appointed. Norman D. Nelson, Assistant Dean at Southern California, now on leave as acting Dean at Lebanon, comes highly recommended as an administrator. It was impossible for him to attend our meeting, but in an exchange of letters he has promised full cooperation with the State Society. I trust we all will assist in every way possible to make his administration a success. May I express appreciation to the Dean's committees and especially the Chairman, Dr. Fowler, for the splendid cooperation given us during the past two years. The faculty has given great assistance in our television and post graduate work. Dr. Fowler stepped into a most difficult position and has done a splendid job.

## TELEVISION

During the past two and a half years the State Society has been putting on television programs over station WOI-TV. These have been presented every two weeks, and have covered a wide range of medical subjects. While we realize that they have been visible only in central Iowa, the Trustees have felt this was a splendid testing ground, for soon the state will have full television coverage, and the experience gained at WOI-TV, at very little expense, will be of great value if the Society decides to make further use of this new medium. The success of this program is due entirely to Dr. Bernard. He has done a splendid job—in fact has become quite a production authority.

## WASHINGTON CONTACT

Last month the President, the Chairman of the Legislative Committee and the legal counsel had luncheon in Washington with the entire Iowa congressional delegation except Senator Gillette. It developed into several hours of round table discussion whereby the congressmen learned of the activities and policies of the State Society, and we were told of criticism received in Washington. The meeting, I believe, had great value, and my opinion is supported by letters I have received from most all of the congressmen. It is difficult to evaluate this type of experience in terms of money, but to us who participated, it seemed priceless and we are sure the practice should continue in the future.

During the past two years the osteopathic problem has precipitated increasing discussion in several areas of the state. The reasons are primarily the wording of the Osteopathic Practice Act of Iowa, whereby at the present time osteopaths are in reality practicing medicine as much as we are, and because of the construction of many new hospitals in rural areas, conflicts have arisen over staffing these institutions. Also, we have here in Des Moines an osteopathic school turning out

about fifty graduates a year, who are going out into rural areas of Iowa. This whole problem will be studied by the House of Delegates this year. It is a subject requiring earnest, careful and candid consideration.

It must be kept in mind by us of the medical profession, that there are communities in Iowa that do not have the services of Doctors of Medicine available. With them the problem is acute. When and if the peace of the world is restored and thousands of younger M.D.'s are released from the armed services to return, this problem will not be as serious, and these communities will be given the service to which they are entitled.

There is one phase of this problem which the public does not understand or realize, and if one can judge from various conversations, apparently some physicians fail to understand it, also. Iowa has two entirely different standards of medical practice and two examining boards operating under these two standards. We have our Medical Examining Board requiring applicants to meet our standards—namely, Class A medical schools approved by the AMA—before they can be licensed. Then we have an Osteopathic Board examining and licensing applicants under its standards. In addition, they have set up Specialty Boards, and, again, these diplomates are examined and certified according to their standards.

In other words, under the laws of Iowa we have two groups licensed to practice medicine and surgery in the state, but with entirely different training backgrounds and standards. A physician recently remarked to me that there is no more reason for two standards of medical practice than there would be for two fire departments—one claiming a two inch hose more effective and the other favoring a three inch hose—while in the meantime the house could burn down. Is this fair to the citizens of Iowa? And does the public realize its significance? It would seem if this conflict could be resolved there would not be much of a problem.

At the present time there are some who believe legal action resulting in an interpretation of the Osteopathic Practice Act will simplify the problems, the result being a definite, constructive and fair Medical Practice Act, and in this connection some further legislative action will be necessary.

There are others who feel that the wiser course is to be guided by the AMA. The national organization has, at the present time, a committee headed by Dr. Cline, a Past President, studying the whole osteopathic situation. It is hoped that a report will be ready for the June meeting. Whatever action is taken by our House, the guiding theme must be the consideration of what is best for the people of Iowa.

Last year the House of Delegates, recognizing the confusion existing in the office of the Board of Medical Examiners, authorized the appointment of a committee to study all phases of this matter and report its recommendations to the



Legislative Committee, which, in turn, would attempt to have necessary legislation adopted to give Iowa a good, strong Board.

This committee was appointed. I feel it was a strong one. The members carefully studied the Iowa situation, compared the laws of other states, consulted the present Board and the Commissioner of Health. They then presented their combined recommendations, which the Legislative Committee submitted to the Legislature in the form of a bill, known as Senate File 47. This has passed both Houses and become a law. Although some amendments were made to the original bill, the important items were retained, giving the state a five-man board, with sufficient funds and authority to establish a competent organization for the protection of the people of the state. The State Society had no connection with the bill other than performing a public service.

May I mention a few observations on ways of strengthening the State Society? First, let us place the best men available in all the offices, and let us forget the geography of where they live. One very encouraging sign is the number of excellent younger men over the state who are taking an interest in our organization. They should be encouraged to start at the County Society level and work up, for it has definitely been shown that a man who has been elected to one of the top state offices without previous knowledge of the Society works under a great handicap to himself as well as to the State Society.

Second, it has been apparent to some that we, like any rapidly expanding organization, have some weak links; that there is a need for streamlining the Society, in order not only to distribute the work of your officers, but also to add more efficiency to the organization. With this in mind the President and President-elect went before the Trustees in December with some recommendations and suggested that a survey of our entire association be made by a man expert and experienced along these lines. The Board immediately instructed that this be done and engaged one of the best known executive secretaries in the country, serving probably the best organized state society.

Some of his suggestions already have been put in practice at the office, and changes in the structural organization of the Society for more efficiency were submitted to the House last evening. The delegates, of course, will decide whether or not to accept these changes.

In conclusion, may I be permitted to indulge in some personal references. I desire to express my appreciation for the honor of having served during the past five years as an officer of the State Society. It has been an unusual and rich experience, for tremendous growth has occurred during these years. As I step out of the picture, it will be with a feeling of deep appreciation to the various men over the state who have cooperated so wonderfully during these busy years, especially the Board of Trustees, the various committees, the

Executive Council, and many of our members not in official capacity who were always willing to give me the benefit of their experience and advice. I should like to pay special tribute to one of the councilors, a young man from the little city of Washington whose name is Boice. There never has been a road too bad or an hour too late for him to come to Des Moines when we have called to ask his help and his good sound judgment on some problem. It is men like Clyde who have made the Iowa State Medical Society.

May I also suggest to those of you who are hesitant about giving your time to organized medicine that there is a recompense, there is pay—and it is pay the Collector of Internal Revenue cannot take any part of; you get value received many times over in the deep friendships you acquire all over the state. It is well worth it, I know.

---

### PRESIDENT-ELECT'S ADDRESS

R. N. LARIMER, M.D.  
SIOUX CITY

THE POSITION of a president-elect might be compared to that of a fetus-in-utero. For many months observers have known that a certain delivery day is coming, but no one can tell whether a perfect child or a monster will then appear. Many people wait with interest and some, like Dr. Whitaker, with relief, for the appearance of the newborn, but for the individual himself, the real battle for existence begins, and what was a relatively easy and calm period is completely gone, and independence with its many stresses and strains becomes a reality. The comparison could be carried much further, but briefly, the above generally characterizes my state of mind. One cannot approach the presidency of this organization with anything resembling equanimity! There are too many problems, both old and new, which demand some sort of solution, and one cannot help recognizing one's own limitations of judgment and leadership at the moment. The hope is that such decisions as are reached by the officers, including the new president, will represent something close to the opinion of the entire group, and that the members will have a tolerant attitude toward the officers and their work.

Dr. Whitaker has said, and it must be obvious to all of you, that over the years the State Society has become more than a group for scientific discussions. In former days the problems of physicians were local ones, and with no more organization than that of the County Society, those things which bothered the doctor and his public could be solved. The money which the doctor collected was largely his own to use, and although he paid a property tax, he would argue mainly about the poll tax, which amounted to a dollar a year. He and his daily work were not much concerned with political pressures, the national budget, veterans' affairs, the finding of nurses to help

care for his patients, the critics of his profession, and the other things that Dr. Whitaker has called to your attention. Life expectancy was half, or less, what it is today, and many of the causes of sickness and death seemed inevitable, and were accepted as such by the doctor and the public. In brief, his worries were largely confined to his own patients, and those worries were the kind that he, and we, were trained to take in stride during the ordinary day's work.

Dr. Whitaker has outlined for you some of the things which not only will demand the attention of your officers, but should also be of concern to each of you. It may be that you have heard enough of them, but I cannot stop without calling your attention to some things that he did not mention.

Within the last month there has been a reorganization in the Federal Government with the creation of a department of Health and Welfare. This is part of the executive branch of the Government and is reportable not to Congress, but to the President. It is to be supervised by a woman who has had no actual specific training for such a type of work. We understand that she is sympathetic, intelligent and friendly, and her record has been that of a good executive, but we have no assurance that she will not be the victim of all sorts of political pressures, and we also know that in the general scheme of things the tenure of both the president and Mrs. Hobby will be temporary. We cannot at this time know anything of their successors. We do know however, that each one of us will be affected by the policy and rules of the Department for the rest of our professional lives. Likewise many of our patients will be affected by the planning of the Department. Those in authority in the AMA accepted those changes on the basis of "saving face," since it seemed that, whether we liked it or not, the changes were to be made.

During the last year of the Truman administration, the so-called Magnusson Committee was at work. This was a relatively small group doing an extremely large job in a short time. No matter how good the intentions of the physicians on the Committee were, they were a minority in the group. The job was probably too great for them. With the change in administration no doubt the recommendations of the Magnusson committee, some of which are extremely critical of both private and individual Medical practice, will not be carried out, but the report is certainly a matter of record and repercussions and echoes of it will be used by many vocal groups, political and otherwise, as bases for argument in years to come.

It would seem to me that every doctor in Iowa should watch the development of events in Washington. And may I especially recommend to you that each week you read the Washington News which is found in the front pages of the AMA Journal. Your officers receive at least three weekly news letters of medical current events. Two are from the AMA offices in Chicago and Washington,

and one from a medical news service in Washington. We also receive the Shearon reports. As you become informed of some of the pressures from Washington, you will become better members of the Iowa State Medical Society and better able to help the officers in the working out of these types of problems.

It is our hope that this year we can stimulate more and more participation of individual doctors in the solution of these many medical-political problems. I hope that in all of the many groups in which we doctors meet, the problems of Organized Medicine will be prominent in the list of things discussed. It is easy to make some quick and ready criticism of things as they are, but to change things for the better takes considerable effort and knowledge and a willingness to spend actual time and effort. Endless hours of discussion which do not come to a conclusion defeat the purpose of the discussion. We hope that you as individuals will be willing to support the whole structure by your advice and help. Criticism of officers without constructive suggestions for improvement can only lead to bitterness and surely will not solve any problem.

Your officers are as busy professionally as any of you. We are not trained public relations people or politicians or czars, but we are, like you, interested in the preservation and improvement of our professional lot, and for our term of office we ask that each of you help in preserving the future of all of us. We promise to answer every letter which you will send to us, that we will either follow your suggestions or explain why we cannot, and we invite any of you to appear at our meetings personally if you feel that there is something we should be doing for you. To the officers of the County Societies I have a special word. We particularly ask that you come to the Presidents and Secretaries' conference which will be announced later.

My only hope is that I can carry forward our program with the skill and ability of our past officers to preserve our traditions in a way that will be satisfactory to all of you.

#### MEETINGS PRECEDING A.M.A.

The Annual Meeting of the American Therapeutic Society is to be held at the Hotel Biltmore, in New York City, on May 28-31. Outstanding in the program is a Symposium on Tobacco, and there are two other symposiums, one on recent developments in medicine and the other on recent advances in surgery. One entire day will be devoted to new items in the therapeutic armamentarium.

The Fifth Annual Convention of the International Academy of Proctology, at the Plaza Hotel, New York City, May 29-31, will follow its Surgical Clinic and Seminar, on May 28, at the Jersey City Medical Center under the direction of Dr. Earl J. Halligan. An extensive Motion Picture Seminar of Proctologic Surgery (including office techniques) will be conducted on May 31.

Guests are welcome at the scientific sessions of both groups.



BLEEDING FROM THE UPPER GASTROINTESTINAL TRACT—A SYMPOSIUM

Part I: Medical Management

WALTER M. KIRKENDALL, M.D.\*

ONLY THOSE POINTS in the medical management of massive bleeding from the upper gastrointestinal tract which we have found practical and useful will be mentioned at this time. Many points are controversial,<sup>2</sup> but these arguments will not be discussed in detail.

To obtain an over-all view of the problem, it might be of interest to see the most frequent causes of major bleeding from the upper gastrointestinal tract.<sup>3</sup> (Table 1.)

The first group is from a large municipal hospital. The experience at Iowa City Veterans Administration Hospital is with a highly selected segment of the population—men between the ages of 20 and 65. The small number of patients with massive bleeding from the gastrointestinal tract that we have had since the Hospital opened indicates that the percentage of bleeding peptic ulcers and gastritis will be high in this series.

The chart shows that peptic ulceration is the major cause of massive bleeding from the upper gastrointestinal tract and that all other causes represent much less than half of the cases.

In the medical management of these patients, a good history is a major help. In many cases it leads the physician to suspect the correct diagnosis. It may enable him to recognize other problems and complications.

A few points in the history deserve emphasis. "Stomach trouble," especially when it relates to

ulcer have no antecedent history of distress, or a very short history.

Alcoholism, vagrancy and repeated attacks of jaundice suggest to the historian that the bleeding site may be due to esophageal varices, gastritis, or (rarely) a complication of a wandering gall stone. Likewise, the history of excessive, repeated or specific drug ingestion before bleeding leads one to consider various types of drug idiosyncracies (aspirin) or toxicity (dicumarol).

Easy bruising or hemorrhage from other parts

TABLE 2  
RARER CAUSES OF MASSIVE UPPER GASTROINTESTINAL TRACT HEMORRHAGE

Malignancies of:	Esophagus			
	Small Bowel			
	Pancreas			
Erosion and Ulceration of:	Esophagus			
	Heterotropic	Gastric	Mucosa	
Rupture of:	Aortic Aneurysm			
	Splenic Artery			
	Hepatic Artery			
Benign Tumors of Stomach				
Lymphosarcoma of Stomach				
Prolapsed Gastric Mucosa				
Mesenteric Thrombosis				
Pancreatic Necrosis				
Chronic Relapsing Pancreatitis				
Gastric Varices				
Thrombocytopenic Purpura				
Aplastic Anemia				
Mallory-Weiss Syndrome <sup>4</sup>				
Hemorrhagic Telangiectasis				

of the body in the past makes one consider blood dyscrasias and, if there has been a family history of such things, hereditary telangiectasis. Other rarer causes of massive gastrointestinal bleeding are listed in Table 2. Frequently a good history will suggest some of these less frequent causes.

In the physical examination, a few things have special meaning to us. Spider naevi, palmar erythema, jaundice, an unusually hard liver, gynecomastia or testicular atrophy give weight to diagnosis of bleeding varices. Great emaciation, regional lymph node enlargement, a large nodular liver or a mass in the epigastrium make carcinoma of the stomach a likely cause of the bleeding, although cancer of this site is not a frequent cause of massive gastrointestinal bleeding. Purpuric lesions, telangiectasia, and generalized lymph node enlargement make one think of blood and blood vessel abnormalities as the cause. Splenomegaly is helpful, but it may be seen with cirrhosis, blood dyscrasias and, occasionally, with carcinoma.

The rectal examination and examination of the stool are of paramount importance. If the stool is tarry, one can rest assured that the bleeding is from the upper gastrointestinal tract. Although bright red blood may be seen in the stool from an upper gastrointestinal lesion, almost never are tarry stools seen from a bleeding source in the colon. Close observation of the stools often gives

TABLE 1

Causes of Massive Upper Gastrointestinal Tract Bleeding	% of Cases*	I.C.V.A.H. # of Cases**
Peptic Ulcer .....	51.1	20
Hepatic Cirrhosis .....	10.5	2
Gastric Carcinoma .....	3.1	1
Gastritis and Gastric Erosion .....	1.5	4
Undetermined .....	26.4	
Miscellaneous .....	7.4	1
Curling's Ulcer .....	not listed	1
Hiatal Hernia .....	not listed	2
Dicumarol Intoxication .....	not listed	1
Total .....	325	32

\* Cincinnati General Hospital, 1 Oct. 1937-31 March 1943 (Schiff)<sup>1</sup>

\*\* Iowa City V. A. Hospital, 3 March 1952-1 Jan. 1953

flatulence, food idiosyncracies, constipation, upper abdominal pain and food relief, usually means that the person suffering from the bleeding has a lesion in the duodenum or stomach. This almost always means a peptic ulcer, if gastric carcinoma, gastritis and hiatus hernia can be ruled out. About 10 to 30 per cent of those with peptic

\* Chief of Medical Service, Veterans Administration Hospital, Iowa City, Iowa, and Clinical Associate Professor of Internal Medicine, College of Medicine, State University of Iowa.

clues as to the amount and briskness of the bleeding.

While we are taking the history and doing the physical examination, a number of events are set into action. The patient is cross-matched, his blood count is obtained and a urinalysis is done. A surgeon is called to observe the patient's course with us. Depending on the patient's state at the time, we start blood immediately or simply observe him. Observation must be exceedingly careful and is a time consuming job. The blood pressure and pulse are watched hourly or every half-hour for changes which indicate more bleeding. The patient's appearance and actions are weighed for other clues of further bleeding and stools and vomitus are noted for bright blood.

The response of the body to massive bleeding is well-known. If less than 10 per cent of the blood volume is lost, the body will be able to compensate by shunting blood from the viscera, muscles and skin to vital areas. With greater loss than this, blood pressure will begin to fall, the pulse will rise to ineffective heights and weakness and collapse will occur. When 30 per cent of the blood volume is lost by a single sudden hemorrhage, the patient usually dies.

Although hemodilution starts immediately after loss of blood, this compensatory mechanism is so slow that vascular changes represent most of the effective early defense of the body to this threat. Thus, although we always measure the blood count, hematocrit and hemoglobin levels and make attempts to measure blood volumes, none of these help us much in the acute phase. The changes which we measure are either too slow to manifest themselves early, or technical problems render them awkward. We must rely on measures which we can observe quickly and which are not likely to be misinterpreted. Observation, as defined above, probably does this job best.

Every effort is made to diagnose the source of the bleeding accurately. All available means to this end are used soon after the patient has been admitted. An upper gastrointestinal tract x-ray series is obtained as soon as possible, looking specifically for varices, ulcers and tumors. Esophagoscopy and gastroscopy, when indicated, are done early. We don't believe that either of these two procedures should be withheld if we have been unable to make a diagnosis by any other means. The risk of these procedures in persons with severe bleeding is small compared to the benefits that can be gained by having a proved diagnosis.<sup>5, 6</sup> It is sometimes difficult during a stage of acute bleeding to do these diagnostic measures, but fair to good visualization may be obtained if one uses ice water lavage and makes the period of observation as brief as possible. These procedures have no equal in the diagnosis of esophageal varices and the various gastritides. Soon after a patient with massive gastrointestinal

bleeding enters the hospital, a bromsulphaline test is done, as are other tests of liver function if cirrhosis is thought to be a likely cause of the bleeding. Bleeding, clotting and prothrombin times, as well as platelet counts and a differential smear, are done, as indicated, very soon after admission if the diagnosis is not established.

Depending on the severity of the bleeding, the speed at which we do various diagnostic procedures is varied. In general, we attempt to avoid doing very much until the patient is brought out of initial shock. However, if this is not easily done, the studies are instituted. Even though we realize the dangers of manipulation during such precarious states, it is felt that the advantages to be gained by early diagnosis far outweigh any theoretical advantage offered by a more conservative approach.

Blood is the bulwark of our defense. This is given liberally until it is obvious that the patient's bleeding has stopped and we have replaced much of his blood loss. It is given early, rapidly and continuously, depending upon its need. It is our belief that early use of blood has saved the lives of many patients, that it has probably prevented many complications of shock such as acute renal failure and that it makes the patients much better surgical candidates if surgery must be done. The possibility that elevation of blood pressure following administration of blood might cause a blow-out of the clot at the hemorrhaging site does not seem to be a valid reason to withhold this therapeutic material.

Antacids and food are given to most patients with massive upper gastrointestinal tract hemorrhage if vomiting and shock are not serious problems. We feel that neutralization of gastric acidity might aid in healing many lesions in which the acidity itself is not the main cause. These materials are fed hourly and the feeding is interrupted only for endoscopy, x-ray studies and surgery, when the latter is decided upon. If vomiting and shock are problems, we prevent gastric dilatation and aspiration by judicious use of the stomach tube.

Atropine in full doses is given by injection in an effort to neutralize the cephalic phase of acid secretion. Small amounts of sedatives are used, but no anodynes are used unless pain becomes quite severe.

We have used gelfoam and thrombin in two cases of peptic ulceration, as advocated by Cantor, Kennedy and Reynolds.<sup>7</sup> With this number we have been unable to evaluate the efficacy of the plan, but both patients did well.

The main problem in the management of these patients arises when measures outlined above fail and observation reveals that the patient's bleeding has not stopped. The exact time that these patients should be presented to the surgeon for operative procedures is most controversial. In general, if



the patient has demonstrated in a relatively short time that he is not able to hold the administered blood in his circulation, surgery for the lesion is considered. Many individual factors must be weighed, not the least of which are the diagnoses, the chronicity of the lesion, the age of the patient and his general condition. One should have no illusion that all patients who bleed need surgery, for a large number do very well on medical management, have no recurrence of their bleeding or, in the case of peptic ulceration, no more symptoms from their ulcer. However, if the patient has a lesion amenable to surgery and is having difficulty despite massive blood transfusions, it is our tendency to have the surgery done early rather than late.

I have specifically avoided time limitations and measurements of the amount of blood to be given before surgery is considered. Although, in general, 1.5 to 2.5 liters of blood should be given before one despairs of coping with the bleeding site by simple transfusion, at times more blood than this may be indicated. No hard and fast rule for a time-test of medical management can hold for a very large group of patients. Some patients will make it obvious that surgery is necessary in 4 hours; others in 48. With advances that have been made in surgical and anesthetic techniques, operation for surgically amenable lesions is not the hazard that it once was. It is with this in mind that we tend to bring our patients to surgery when there is little more than reasonable doubt that the bleeding has not stopped and will not stop under medical management.

In summary, early diagnosis, administration of blood and close observation of the patient are the prime medical responsibilities in the treatment of the patient with massive gastrointestinal hemorrhage during the acute phase. The vast majority of these patients can and should be handled without resorting to surgical techniques. It gives one a sense of security, however, to have a good surgeon on hand when medical measures fail to stop the bleeding.

#### BIBLIOGRAPHY

1. Schiff, Leon: Hematemesis and Melena, in MacBryde, C. M.: "Signs and Symptoms, Their Clinical Interpretation." Philadelphia, Lippincott, pp. 344-359, 1947.
2. Pollard, H. Marvin, and Wollum, Arnold: Treatment of Hemorrhage from Gastroduodenal Ulcer, in "Peptic Ulcer," edited by Sandweiss, David J., Philadelphia, W. B. Saunders Co., 1951, pp. 636-650.
3. Schiff, Leon, and Shapiro, Nathan: Gastrointestinal Hemorrhage. *Ibid.* pp. 623-636.
4. Weiss, Soma, and Mallory, G. K.: Lesions of the Cardiac Orifice of the Stomach Produced by Vomiting. *J.A.M.A.* 98:1353-1355 (Apr. 16) 1932.
5. Zamcheck, Norman, Cotter, Thomas P., Hershorn, Simon E., Chalmers, Thomas C., Ritvo, Max, and White, Franklin W.: Early Roentgen Diagnosis in Massive Bleeding from the Upper Gastrointestinal Tract: I. Clinical Evaluation of Safety and Reliability of the Method in 123 Patients. *Am. J. Med.* 13:713-724 (December) 1952.
6. Palmer, Eddy D.: Observations on the Vigorous Diagnostic Approach to Severe Upper Gastrointestinal Hemorrhage. *Ann. Int. Med.* 36:1484-1491 (June) 1952.
7. Cantor, Meyer O., Kennedy, Charles S., and Reynolds, Roland P.: Gelfoam and Thrombin in Treatment of Massive Upper Gastrointestinal Hemorrhage. *Am. J. Surgery* 82: 230-235 (Aug.) 1951.

## Part II: The Role of the Roentgenologist

GWILYM S. LODWICK, M.D.\*

The bleeding patient is referred to the radiologist with the hope that the source of hemorrhage will be localized. This is of great importance to both internist and surgeon for evaluation of further therapy and positive management of the patient, and for determination of mode of surgical approach and incision which may be dictated by

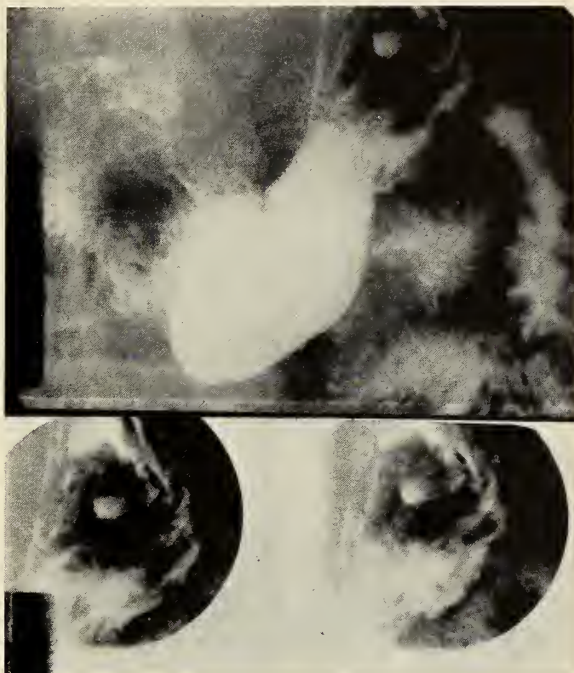


Figure 1. Shallow ulcer, posterior wall of stomach, demonstrable only in semi-recumbent position.

the location and nature of the lesion. While the patient may give a long history of difficulty with duodenal ulcer, the examination may disclose varices of the esophagus as the cause of bleeding, requiring entirely different management.

The problem of locating the source of upper gastrointestinal bleeding is more difficult than the routine examination, because the radiologist is denied the use of one of the most valuable tools in his armamentarium, the pressure spot film. With this mechanism, the demonstration of a small ulceration in the duodenum or lower stomach is relatively easy, but the pressure and manipulation involved might freshen the bleeding, and should be carefully avoided. In its place Hampton<sup>1</sup> has substituted the air contrast examination, where the gastric air bubble is manipulated to distend the barium coated walls of the stomach and duodenum. Some institutions are now advocating the routine use of the pressure cone on

\* Chief of Radiology, Veterans Administration Hospital, Iowa City, Iowa, and Clinical Assistant Professor of Radiology, State University of Iowa.



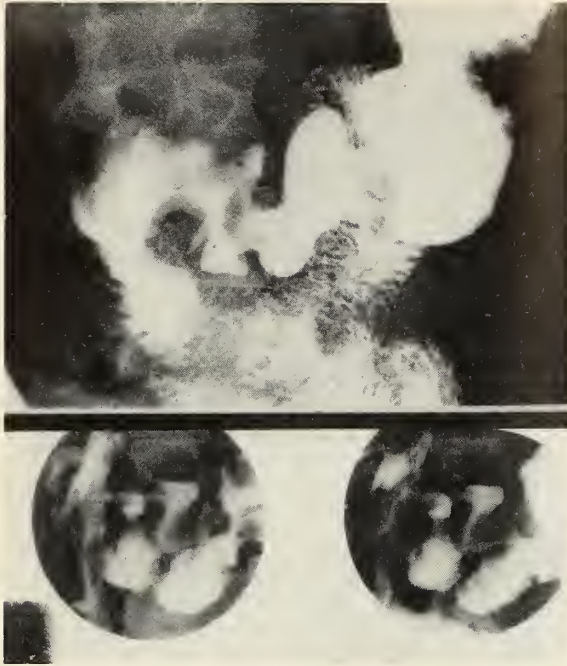


Figure 2. Duodenal ulcer, with classic clover-leaf deformity.

bleeding patients,<sup>2</sup> but most radiologists believe that its use should be avoided until further controlled studies have been made.

The patient is often weak and quite unable to cooperate with the examiner. It is best to carry



Figure 3. Gastric carcinoma, antrum, lesser curvature.

out as much of the examination in the supine, prone and semi-recumbent positions as possible. Then, that part of the examination when the patient must be erect is done as quickly as possible.

The examination is begun with the patient on his back, and a few swallows of ordinary barium meal are taken through a straw. The entire esophagus and gastric fundus can be seen in this pro-

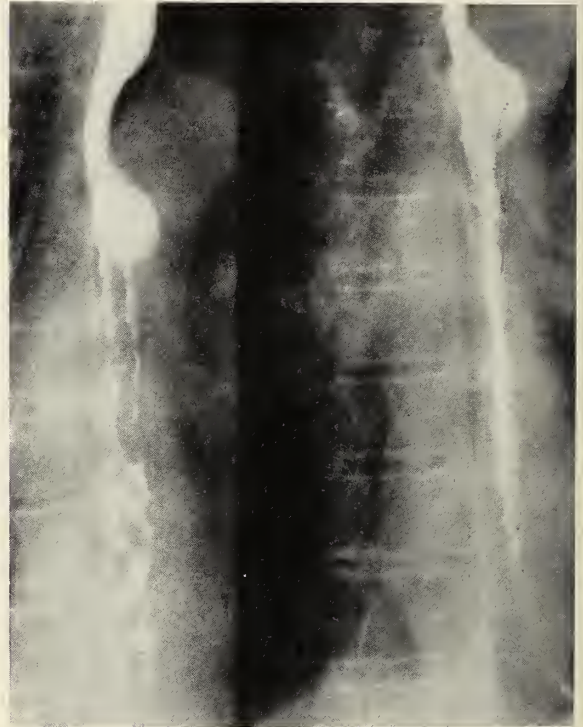


Figure 4. Esophageal varices.

jection. The patient is now placed on his right side, and the barium flows down to coat the body and antrum, and often to fill the duodenum. With rotation back into the oblique position with the left side down, the greater curvature of the stomach can be examined. The air bubble comes forward to dilate the angularis and antrum, and is carried into the duodenum by gastric peristalsis. It is this projection that Hampton finds most valuable.

The patient is now brought to a semi-erect position, which allows the stomach to descend to a more vertical axis, unfolding the angularis and allowing close inspection of the antrum and duodenal bulb. In this position the patient is allowed to drink the remainder of the glass of barium. It is emphasized that the examination should begin with only a few swallows, since shallow ulcers on the posterior wall of the stomach can be demonstrated only in the erect position with a small amount of barium (Fig. 1). The remainder of the glass of barium distends the stomach, ironing out the mucosal folds.

Next, the patient is placed in the Trendelenberg



position, in which the hiatus hernia is particularly apt to fill, and finally, in the conventional prone position, where the esophagus is thoroughly examined with thick barium. Spot films are taken frequently throughout the entire examination, using the cone, but without applying pressure. With this technique, we believe that we are not exposing the bleeding patient to undue hazards, and we have been able to find the source of bleeding in a high percentage of cases. It should be emphasized that the earlier the patient is examined, the more likely is the chance of making a diagnosis.<sup>3</sup>

If the source of bleeding cannot be determined fluoroscopically, special effort must be made to outline every portion of the upper gastrointestinal tract on films which can be examined minutely after the patient has been returned to the ward. In such way, small craters may be found which escape the relatively gross fluoroscopic vision. One may also effectively rule out areas where



Figure 5. Hemorrhagic gastritis. Note fine serrations along greater curvature.

bleeding commonly occurs, so that further diagnostic measures may be undertaken.

Briefly, the lesions we see in the bleeding patient are:

(1) **PEPTIC ULCER** of the posterior wall of the duodenum, the most common site of upper gastrointestinal bleeding (Fig. 2). An interesting variant of the peptic ulcer of the duodenum is "Curling's Ulcer," in our one case a violently bleeding lesion in a young man with superficial burns of the arms.

(2) **PEPTIC ULCER** of the stomach.

(3) **GASTRIC CARCINOMA** (Fig. 3).

(4) **ESOPHAGEAL VARICES** (Fig. 4) which are usually in the lower third of the esophagus but may involve its entire length. These are best seen after the esophagus is relaxed, and are demonstrated by x-ray in from 30 to 40 per cent of patients with advanced portal cirrhosis. The pathologist reports that one case in twenty has bleeding from mid-esophageal varices rather than the lower esophagus.

(5) **HIATUS HERNIA** with or without short esophagus. This is a not infrequent source of bleeding, but ulcers, if present, are usually shallow.

(6) **GASTRITIS**. Two of our patients have had exsanguinating hemorrhage from the gastric mucosa. Antral gastritis was suspected in one, while the bleeding was proven to come from the fundus; and the other had mucosal hemorrhage and alterations which produced a serrated pattern along the greater curvature, much like that seen in early ulcerative colitis (Fig. 5). A similar x-ray pattern has since been seen in another patient with acute gastritis. Giant hypertrophic gastritis is rarely seen and is unusually conspicuous, but I am not sure of the roentgen diagnosis of ordinary hypertrophic gastritis.

#### BIBLIOGRAPHY

1. Hampton, Aubrey O.: Safe method of roentgen demonstration of duodenal ulcers, *American Journal of Roentgenology*, 38:565-570 (October) 1937.
2. Zamcheck, N., Cotter, T. P., Hershorn, S. E., Chalmers, T. C., Ritvo, M., and White, F. W.: Early roentgen diagnosis in massive bleeding from the upper gastrointestinal tract, *American Journal of Medicine*, 13:713-724 (December) 1952.
3. Elmer, R. A., Rousuck, A. A., and Ryan, J. M.: Early roentgenologic evaluation in patients with upper gastrointestinal hemorrhage, *Gastroenterology*, 16:552-565 (November) 1950.

### Part III: The Role of Surgery

ROBERT C. HICKEY, M.D.\*

THE SELECTION OF patients to be operated upon for major upper gastrointestinal bleeding is brought about by a net summation of all available data, including the patient's history, past and recent, the physical findings, his age, and particularly his behavior while under observation.

In the clinical appraisal, the laboratory and x-ray findings are weighed, but more emphasis is put upon the clinical manifestations of a given patient; for example, sweating, tachycardia, and apprehension indicate more quickly that a patient has had a recent bleeding episode or is bleeding than will simple laboratory data which might be masked by body physiologic responses. The measures and techniques which we employ in diagnosis have been discussed. Without a doubt, the single greatest aid in detecting an abnormal area is by roentgenographic means. We have no hesitancy in asking for barium examinations. We turn on occasion to the esophagoscope as a diagnostic aid in selected cases, specifically on suspicion of an

\* Clinical Assistant Professor of Surgery, State University of Iowa; Assistant Chief of Surgery, Veteran's Administration Hospital, Iowa City, Iowa.

esophageal lesion; we always use the Levine tube for gastric emptying, prevention of retching, and in localization for whatever aid it may afford through its returns. From the surgical point of view it is very important that the diagnosis be correct and the lesion be properly localized, for there is nothing more exasperating, when and if operation is decided upon, than to find that one has an incorrectly placed incision, nor more distressing than to search frantically for a bleeding point not to be found, nor more utterly crushing than to find a blood dyscrasia or an abnormality of the clotting mechanism.

*In the surgical consideration of this bleeding problem there are several axioms:*

1. Major arterial bleeding responds best to ligation about the bleeding point.

2. In bleeding there are ebbs and flows, with a tendency toward a repeating time relationship, so that one may build up a blood volume and start an operation before the clot dissolves and bleeding recurs.

3. In the patient past fifty years of age, the anatomic and physiologic conditions are such that arterial bleeding is less likely to subside and there is a higher mortality rate.

4. The age of the patient may offer some aid in diagnosis; that is, Meckel's diverticulum is weighed heavily as a possibility in childhood; peptic ulceration in the third and fourth decades; peptic ulceration and esophageal varices in the middle years; and to these latter, carcinoma is added in the older age group.

5. In patients who are obviously bleeding and about whom findings are otherwise equivocal, if a surgical lesion is suspected, it is better to operate in the presence of some bleeding to aid in lesion localization.

The operative procedures, which may be performed upon bleeding patients, may be divided into an emergent group, an urgent group and an elective group. The anticipated mortality is reflected in this grouping also; the emergent group should carry the highest mortality for conditions are less than ideal, the urgent group an improved prognosis, and the elective group the best prognosis. I should judge that individuals falling into the emergent category are those who require operation soon after hospitalization; and, because of the obvious nature of the bleeding, efforts during the hospital period are directed toward preparing the patient for operation, with other considerations being secondary. The urgent group are those in whom the situation is less tense, and in whom a partial control of the bleeding has been brought about, but for whom recovery is unlikely unless an operation is done. The elective group needs no comment, for the massive bleeding is an incident in the past. A time classification is entirely too artificial. That is, one can't say that up to perhaps 48 hours the patient presents an emergent problem, then urgent, and such. In our group of patients

one individual, for example, bled to exsanguination, improved markedly, and one week later unexpectedly bled to exsanguination again. At this time, the man was operated upon as an emergency.

The successful handling of major upper gastrointestinal bleeding is a cooperative effort throughout, and the full assistance of the operating room nurses and staff is of vital importance. The anesthesiologist is particularly important. Pulmonary aspiration of blood is an ever present danger; gastric suction and an endotracheal tube passed while awake prevent this. Satisfactory oxygenation is necessary for a successful outcome. Anesthetic relaxation is important, but most important is blood replacement. We set up two peripheral intravenous transfusions, perhaps three, at the onset of an emergent operation, with the blood coursing through 15 gauge needles or cutdowns. Equipment is available for intra-arterial rapid blood replacement also. For a true emergency, we have found intra-arterial blood most valuable. This blood is administered under pressure through sterilized tubing via a 15 gauge needle into a large arterial vessel.

Peptic ulcerations produce the most frequently encountered acute bleeding problems, and a duodenal location of the ulcer takes precedence numerically. We might now consider the indication for surgical intervention when the diagnosis of a bleeding duodenal ulcer seems most reasonable.

1. The patient past fifty, with persistent bleeding and a lessened physiologic ability to withstand it, we consider an operative candidate, usually in the emergency or, possibly, in the urgent category.

2. A patient who does not respond to 1500 cc. of blood by a lessening of his tachycardia, improved color and blood pressure elevation, is considered an emergency.

3. One who bleeds, then is controlled, then bleeds again more or less uncontrollably falls into either the emergent of the urgent category.

4. When the hemorrhage is complicated by something such as an obstruction, we consider operation early.

As to the type of operation, we feel that indirect procedures such as simple ligation of the bleeding vessel, gastroenterostomy, or vagotomy fail to face the problem squarely. We do a subtotal gastric resection, thereby removing the hormonal portion of the stomach and part of the acid bearing area. In addition the bleeding vessel is ligated.

Upon encountering gastric ulcers, we apply the same general principles, except that we do not attempt to carry the patient well over into the elective group, but prefer an early urgent operation in nearly all instances.

The next area which most commonly bleeds is the lower esophagus. For esophageal peptic ulceration, we try to operate under elective circumstances or at least urgent, and either resect the



lower esophagus and fundus of the stomach, or do a high subtotal gastric resection to ablate the hormone bearing portion of the stomach and part of the acid pepsin bearing area. We assume that the mechanism for an esophageal ulcer is the same as for a duodenal ulcer. In esophageal varices, one is dealing with venous bleeding from an overflowing portal system of veins. We attempt to control the emergency by intraesophageal pressure, using an inflated Sengstaken-Blakemore bag. An operative procedure, if decided upon, is done under urgent or elective conditions. We choose the operative procedure after considering the pathologic situation at hand. However, our patients usually have cirrhosis, and thus reflect an intrahepatic venous block. Attention has been directed recently to arterial vessel ligation, ligating the common hepatic artery and the splenic artery. The rationale for this procedure rests upon the assumption that within the liver the venous or portal flow and the arterial flow compete for space, with the pressure gradient favoring the arterial flow. By reducing the arterial pressure, one affords the venous blood a passage way. Other operations are esophagogastric resection which removes the bleeding area and spleno-renal or porto-caval venous shunts. An extra-hepatic block, portal vein block, necessitates one of the latter procedures. With splenic vein block, a simple splenectomy will suffice.

Bleeding from hypertrophic gastritis or giant hypertrophic gastritis may constitute a true surgical emergency. My experience is limited to three cases which bled almost to exsanguination. These were treated by near total gastric resection.

Bleeding from lesions such as upper small bowel diverticula, Meckel's diverticula, hemangiomas, and neoplasms are handled by appropriate resections.

When bleeding occurs from a post-gastric resection peptic marginal ulcer, we usually perform a re-section under as ideal conditions as possible, although other procedures, including a vagotomy or an exploration of the duodenal stump searching for residual hormone bearing stomach, may be done. The bleeding from ulceration associated with achalasia is usually not acute. If the ulceration is severe, in general we perform an esophagogastric resection. A diaphragmatic hernia may be symptomatic with respect to bleeding in about a third of the patients demonstrating such a disability. The bleeding is not massive, and therapy rests with a repair of the hernia.

In conclusion, one might say that the surgeon's attention in this cooperative effort is directed toward caring for those patients who cannot effectively be handled otherwise. It is important that the surgeon see the patients early to follow them. For correct therapy a correct diagnosis is imperative. The single greatest factor in therapy is blood replacement and, in the operating room, understanding teamwork.

#### Part IV: The Role of the Pathologist

KENNETH R. CROSS, M.D.\*

SOME RELATIONS between total blood loss and changes in the hemogram usually requested could be quoted for what they might be worth. Here, however, we can give you, the physicians in charge, only some determinations to use in the overall evaluation of the problem which confronts you. I believe, therefore, that no rule or chart can be presented which, without consideration of the patients, would be of any value whatsoever.

The symptoms of blood loss depend upon the prior condition of the patient, and upon whether

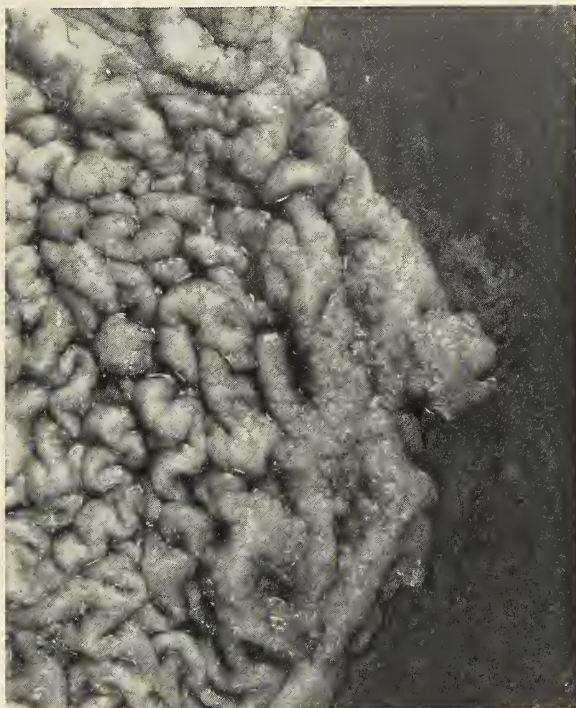


Figure 6. Giant Hypertrophic Gastritis. The deep sulci between giant convolutions are filled with blood.

or not he has had subclinical or undetected hemorrhage previously, as well as upon the rapidity of blood loss. The loss of as little as 20 per cent of the blood volume, if it occurs quickly, will produce shock in the majority of individuals.

Immediately and for a little while after the onset of acute hemorrhage, there is a total loss of blood volume. Therefore, the Hb, RBC and Hematocrit are of little value. After some hours, with the addition of extravascular fluids to replace blood volume, these values begin to decrease due to a dilution factor and reach their lows in from one to four days. Due to readjustment of blood volume, and therefore dilution, they may continue to go down despite the cessation of hemorrhage. These findings then, by themselves,

\* Chief, Laboratory Service, Veterans Administration Hospital, Iowa City, Iowa, and Clinical Associate Professor of Pathology, State University of Iowa, Iowa City, Iowa.



are of no value in determining the extent of hemorrhage until the blood volume has returned to near normal.

It may, nonetheless, be accepted, for replacement purposes, that in acute hemorrhage, the

ondary shock, may appear as the outstanding feature. Liver dysfunction as a result of anoxia rarely appears as "the cause of death," but it is a contributing factor in most of them. Anoxic renal damage with progressive failure accounts for some later deaths. Surgical trauma obviously precipitates these progressive changes in some instances.

About 10 per cent die of acute blood loss, with exsanguination of all tissues and mechanical as well as physiologic failure of vital functions. It is incorrect, however, that only these cases be listed as deaths due to hemorrhage.

One feature is outstanding—outstanding because it is dramatic, quickly fatal and often preventable. That is the aspiration of blood. It occurs as frequently as complete exsanguination, or more often. It usually occurs in persons already in some degree of secondary shock. It appears as the number-one cause of death in from 5 to 20 per cent of cases! This is a complicating feature, but, like the other mentioned, it is just the outstanding feature in the general process of secondary shock due to hemorrhages.

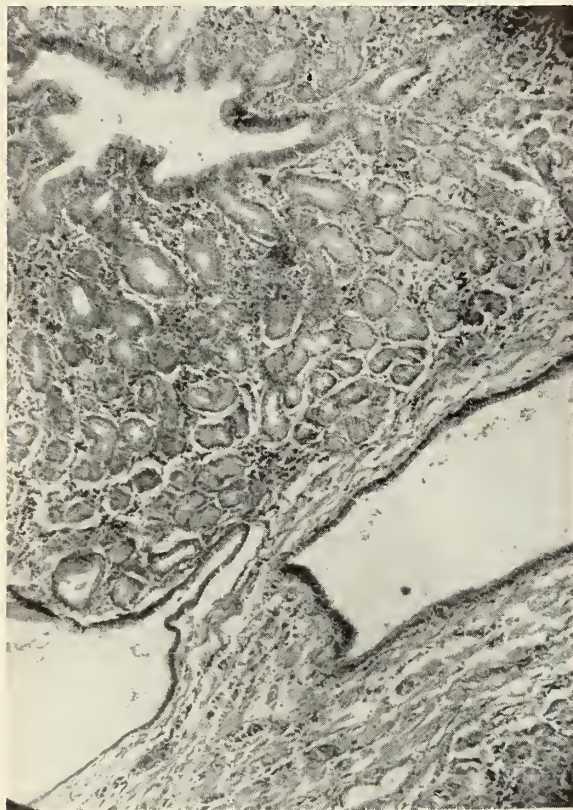


Figure 7. Giant Hypertrophic Gastritis. Mucous cells are increased at the expense of chief and parietal cells and many glands are dilated.

amount of hemodilution is roughly proportional to the amount of blood loss. For example, if at the end of 18 hours of continuous bleeding the Hb is 7 gm. and the RBC 2,000,000, a previously normal person may have lost 3,000 cc. of blood.

I have been asked by members of this panel to list the causes of death in those patients of this group who do not survive. In the average autopsy we list about ten diseases and anomalies. Something is bound to fail first, but the basic cause in all of them is hemorrhage. Most of them show definite morphologic evidence of some degree of secondary shock, with microscopic signs of cellular damage in capillaries generally and with small hemorrhages within serosal membranes. There are microscopic evidences of anoxic changes in all organs, including brain, glands of internal secretion, the heart, lungs, liver, and kidneys.

A heart, having had mild previous disease, may fail first, and the cause of death may be recorded carelessly only as heart failure. Pulmonary edema with dysfunction progressing rapidly to lobular pneumonia, which is an inevitable part of sec-

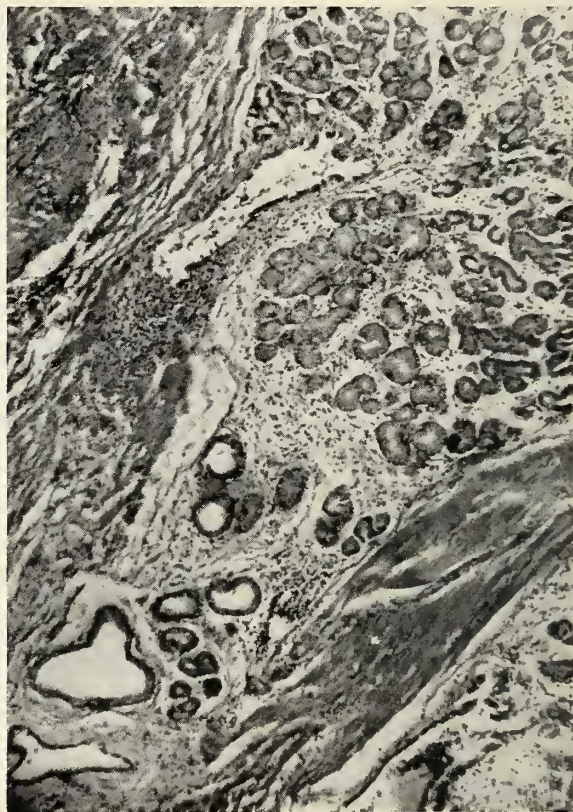


Figure 8. Giant Hypertrophic Gastritis. Glands often penetrate the muscularis mucosa.

I would like to mention in this discussion an entity which is not especially common, which is a subject of much controversy, which is difficult to diagnose, and the significance of which, as a source of severe bleeding, is even denied by some.



This is hypertrophic and giant hypertrophic gastritis.

During the past few years I have observed several cases of bleeding hypertrophic gastritis and three of bleeding giant hypertrophic gastritis.<sup>1</sup> In a recent report from the Boston City Hospital by Chalmers, et al.,<sup>2</sup> gastritis was listed as the cause of fatal hemorrhage in only 2 per cent of cases, but it was diagnosed in live patients nearly 16 times as often. These people usually do not die, for it often gives origin to an oozing, intermittent type of hemorrhage. A given episode may be severe, but inasmuch as larger arteries are not involved, they usually survive the first few times when bleeding occurs.

The stomach may be partially or entirely involved in the giant hypertrophic changes. The cobblestone and brain-like appearance is well shown in the photograph with blood filling the crypts between the giant convolutions. (Fig. 6)\*

The mucosa is thickened in cases of hypertrophic gastritis. In the extreme or giant variety, mucus cells line the crypts all the way down at the expense of chief and parietal cells, and the glands are often dilated. (Fig. 7). They also often penetrate through the muscularis mucosa. (Fig. 8).

#### BIBLIOGRAPHY

1. Giant Hypertrophic Gastritis: Its Surgical and Pathological Significance, Palumbo, Louis T., Rugtiv, George M., and Cross, Kenneth R., *Ann. Surg.*, 134:259-267 (August) 1951.
2. Fatal Gastrointestinal Hemorrhage: Clinicopathologic Correlation in 101 Patients, Chalmers, T. C., Zamcheck, N., Curtins, G. W., and White, F. W., *Am. J. Clin. Path.*, 22: 634-645 (July) 1952.

## ANAPHYLACTIC SHOCK DUE TO PENICILLIN

E. A. LARSEN, M.D.

CENTERVILLE

IF PENICILLIN IS to remain one of our most popular and widely used antibiotics, it behooves every physician employing it to be aware of the possibility of severe antiphyllactic reactions which are becoming more common as patients are receiving repeated series of injections.

This type of reaction comes on within 15 to 25 minutes after intramuscular injection of penicillin. Some of the dangers appear to be in this time interval. The patient may leave the doctor's office, even be driving his car and become unconscious before he is able to obtain help. It is also possible that the physician has recently left the patient's home and cannot be reached in time. These and many more situations could be considered which might be the difference between life and death of a person involved in this type of reaction.

Many physicians will feel that antiphyllactic shock is so rare that the law of averages makes it

almost impossible for them to become involved in this situation. A search through the literature revealed comparatively few cases of this type reported. However, in the past five weeks I have encountered two patients with this type of penicillin sensitivity and feel that more should be said about the possible danger, since we will no doubt encounter it more often in the future.

**CASE REPORT:** Mrs. S. A. M., aged 50 was first seen at her home on September 10, 1952, complaining of nasal congestion, with drainage, sore throat and bronchial cough. Physical examination revealed a low grade temperature, mildly reddened pharynx and boggy, swollen nasal membrane. She states that at numerous times before this, approximately two or three times a year for the past seven years, she had similar bouts of sinus infection. Usually three or four shots of penicillin, whether taken early in the infection or after it had been allowed to drag on for some time, gave her considerable relief.

Her nose was treated with 1 per cent ephedrine solution and she was given 2 cc of Procaine Penicillin G, 600,000 units. After I remained with her about five minutes, she stated her nose felt tight and her mouth felt dry.

I was called away from her home suddenly, but had gone only six blocks when I was summoned to return immediately. Upon arrival I found her in extreme shock, with dyspnea and profuse sweating. Her heart sounds were weak, her pulse was difficult to obtain, and her nose, ears, lips and finger tips were extremely cyanotic. Her lungs seemed to be filled with fluids, and her breathing was audible at quite a distance. I immediately gave her 1 cc of 1/1000 adrenalin hydrochloride. Her veins were almost collapsed, but fortunately I was able to enter one. On inspection, her body was covered with goosepimples, and a splotchy urticarial rash associated with itching.

After she improved I learned from her history she had felt a sudden desire to go to the bathroom. Upon attempting this, she had collapsed and lost control of both sphincters. Within thirty to forty minutes after my return to the house, she was apparently back to normal. She gives no history of previous penicillin sensitivity, although she had taken penicillin troches and nasal insufflations, as well as the intramuscular penicillin mentioned above. She had no history of fungus infections or unusual exposure to penicillin spores.

Two weeks later, while she was in my office, we tested her by giving 1 mm aqueous penicillin G, subcutaneously. Within fifteen minutes she began to notice a peculiar sensation in her nose, dryness in her throat and her skin became rough and splotchy. She began to have bronchial wheezing, but by this time I had already started to inject 1 cc ephedrine sulphate, which I had previously prepared. Her condition improved rapidly, and after thirty minutes she was allowed to leave the office.

**CASE REPORT:** H. S., a white male, aged 45

\* All photos reproduced with permission of the J. B. Lippincott Company, Palumbo, L. T., Rugtiv, G. M., and Cross, K. R., *Ann. Surg.*, 134:259, August 1951.

came to my office complaining of a bronchial cough following a cold. Physical examination revealed a low grade temperature, congested nares, and acutely inflamed oral pharyngeal wall. I reluctantly gave him .5 gm. Dihydrostreptomycin and 400,000 units of Procaine Penicillin G. He had received penicillin on previous visits to the office. He stood at the front desk a few minutes, left the office and started to drive his car home. Approximately ten to twelve blocks from the office he felt faint and had a violent desire to defecate. He managed to stop his car and get out on the curbing in front of an acquaintance's home before he collapsed. I was immediately called, and when I arrived found him still on the curbing by his car, in a profound state of shock. His symptomatology included cyanosis, clothes wet with perspiration, marked dyspnea, chest full of large, moist rales and heart beat barely audible. Between each respiration he was attempting to mutter words to the effect that he was dying.

He was given adrenalin 1/1000 intravenously, very slowly. His recovery was quite rapid. In fifteen minutes he was no longer perspiring, his cardiac and respiratory condition had improved, and he was able to converse with us. The ambulance arrived and he was taken to the hospital, but by this time he was insisting that he be allowed to go home. Upon removing his clothes we found he had lost control only of the urinary sphincter.

During his stay at the hospital he received the routine blood tests, urinary analysis and ECG. All were found to be normal, and he was dismissed the following day.

Two weeks later, at my office, he gave his consent for an attempt to determine the cause of his shock. The possibility of his sensitivity to procaine was considered, and he was given 1 mm intradermally. The result was negative. He was then given 1 mm of aqueous penicillin G, subcutaneously. Within fifteen minutes he broke out with profuse sweating, complained of dryness of nose and mouth, began an asthmatic wheezing and said, "Doc! This is it!" He was slowly given 1 cc ephedrine sulphate, and in ten to fifteen minutes he had recovered. The subsequent wheal at the site of the penicillin injection was three and a half inches in diameter. Four weeks afterward there was an area of necrosis measuring three mm. which will no doubt leave a permanent pit.

His history reveals that in 1945 and 1946 he was given a series of penicillin G intramuscularly, and in 1948 he took penicillin tablets by mouth, the quantity not known. In January of 1952 he had one intramuscular shot of penicillin, which, he thought, made him nauseated. Two weeks prior to the shock, he had received three shots of penicillin G with no evidence of sensitivity.

**CONCLUSIONS:** 1. Since skin tests have been impracticable, and not too reliable in determining penicillin sensitivity, accurate histories must be

taken to avoid these unfortunate experiences if possible.

2. Indiscriminate use of penicillin should be avoided.

3. Since most of the anaphylactic shocks occur within fifteen to twenty-five minutes after the injection, every physician should hold himself available until he feels certain no reaction is going to occur. This is particularly true when penicillin is given to a patient in a rural area or community where he or another physician cannot be obtained within ten to fifteen minutes.

## ALLERGIC REACTIONS TO CATGUT PRESERVATIVES

PHENOL MERCURIC ACETATE SENSITIVITY: A CASE REPORT

GLENN S. ROST, M.D.  
LAKE CITY, IOWA

MANY TYPES OF ALLERGIC responses are on record. However, the widespread usage and approval of modern catgut preparations has made it seem advisable to record briefly one additional case of proven sensitivity to mercurial derivatives used in the preservation and packaging of surgical catgut.

### CASE REPORT

We have seen a twenty-five year old patient with a known sensitivity to mercurial derivatives as evidenced by previous acute severe dermatitis developing whenever he encountered any preparation containing mercurial compounds.

On October 28, 1950, he presented himself with a clinically, and subsequently, surgically, proven acute suppurative appendicitis. Appendectomy was completed by a well known surgeon from a neighboring city. Because of the known sensitivity, care was utilized to omit the mercurial skin preparation usually used in the procedure.

However, medium chromic catgut number 1 of a widely known brand was utilized throughout the surgical procedure and subsequent wound closure.

On the second post-operative day a typical, severe, generalized, dermatitis was noted, and it persisted unabated for eleven days.

Investigation revealed no obvious contact with the mercurial preparations. Yet phenol mercuric acetate had been used in the solution contained in the cutgut tubes. On the chance that this was the source of the reaction, the suggestion was made to the patient that after all symptoms were cleared a similar strip of catgut be sutured beneath the skin. This was refused by the patient.

He did, however, consent to a patch test. Accordingly a 12" strip of chromic catgut, from the same brand and shipment, was woven into a small square of plain gauze. The latter then was saturated with the remaining liquid from the tube of catgut and applied to the forearm as a



patch test. At the end of 24 hours the patient complained of itching beneath the patch and on removal after 48 hours presented a reddened wheal exactly conforming to the design and size of the patch applied. The pattern woven by the catgut in the gauze was no more apparent than the reaction in the area covered by the gauze itself. Two days later the local reaction had subsided except for slight superficial desquamation.

The reaction was sufficiently violent to permit of color photography.

#### SUMMARY

A proven case of generalized mercurial dermatitis arising from phenol mercuric acetate used in the preservation of a well known brand of catgut is presented. This manifestation occurred following its use in an appendectomy for acute suppurative appendicitis.

### A CASE OF "PULMONARY ADENOMATOSIS" EMPHASIZING DIAGNOSTIC CONSIDERATIONS

LAWRENCE D. AMICK, M.D.

SAC CITY

THE DIAGNOSTIC DILEMMA arising from pulmonary adenomatosis or primary pulmonary alveolar carcinoma was emphasized in a recent case here that had been studied by several practitioners and consultants. This study is submitted to add to the reports which altogether indicate a significant incidence for this hitherto rare or undiagnosed neoplasm and hopefully to clarify further its diagnosis and treatment. The fact that the disease process was demonstrably well localized when the following case was first seen heightens the physician's frustration at failing, through want of a diagnosis, to apply the principle of early action against cancer.

#### CASE REPORT

A 72 year old white female was admitted to Loring Hospital, Sac City, on August 2, 1952. The past history revealed that she had been generally healthy in recent years except for treatment by a physician for constipation, spastic bowel, and high blood pressure and for rather frequent colds and sore throats in the winter seasons. She had had the usual childhood diseases, including whooping cough with no sequelae, and there had been no pneumonia. She had a nervous breakdown with confusion and a state of unresponsive withdrawal for two days when her mother died in 1940. Her usual weight was 135 pounds. She had no angina, allergy, hay fever, or asthma. Her habits included neither smoking nor drinking. On the farm where she lived she had no contact with sheep. The family history revealed that her father died at 59 from stomach cancer. Her mother died at 83 from heart trouble. A sister died at 63 from parkinsonism. Another sister died at 64 from breast

cancer following surgery. A living brother has a history of empyema and pleural fibrosis following pneumonia and lung abscess.

The present illness began in November, 1950, when she developed a cough and fatigue with chills and fever. She was seen by another physi-

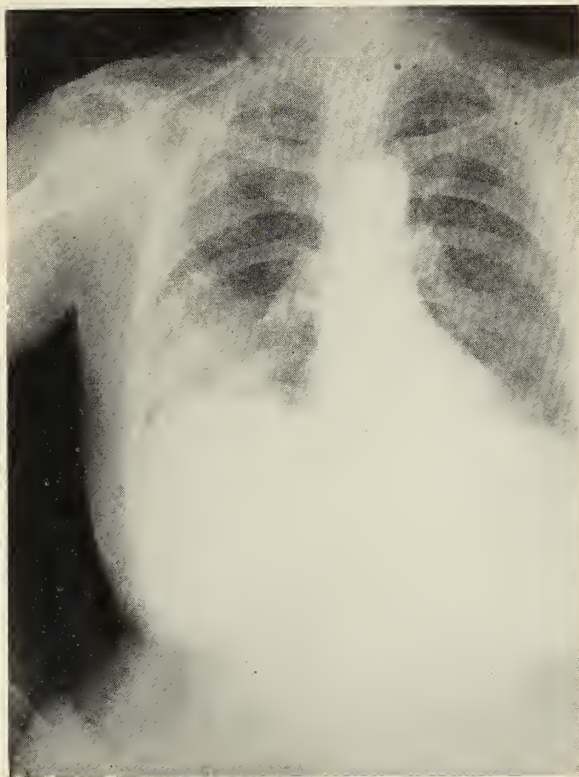


Figure 1. December 14, 1950. Unilateral involvement of alveolar cell tumor presumably existed at this time.

cian who, she stated, administered penicillin for two days. Aureomycin was then started, and she received about thirty aureomycin capsules by December 14, 1950, when the physician hospitalized her on account of her persistent cough and failure to gain strength. On admission she had aching in the right chest. Physical examination revealed coarse rales in the right lower lobe, blood pressure 174/95, and a white count of 15,050. During two weeks of hospitalization, she was afebrile and throughout was given chloromycetin on a maintenance dosage of 250 mg. every six hours. The physician noted that her subjective and objective signs gradually improved, and the chest films on admission and discharge showed marked clearing of the right lower lobe infiltration as illustrated in Figures 1 and 2. She was discharged on December 27, 1950, with a diagnosis of primary atypical pneumonia.

The patient continued to cough some and first came to our office May 2, 1951, complaining especially of nocturnal wheezing and rattling in the chest and a persistent sore throat. An office examination revealed coarse crepitant rales with slight dullness in the right posterior lung base and a

blood pressure of 180/100. The patient postponed consultation with a specialist but later consented to further x-ray studies when on May 31, 1951, she had increased coughing with expectoration of thick yellow phlegm, chilliness, hoarseness, and

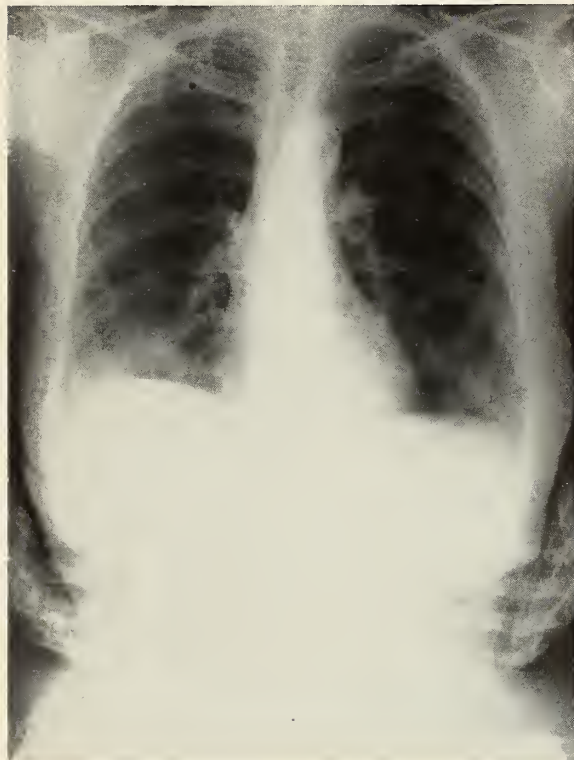


Figure 2. December 22, 1950. Antibiotics and time seemed to benefit what was diagnosed as virus pneumonia.

backache, with a blood pressure of 130/80. Sulfamerazine therapy then cleared the sputum and she improved.

The chest films including that shown in Figure 3 taken May 31, 1951, were interpreted by a Board radiologist<sup>1</sup> in the following excellently didactic and thorough analysis:

"We can rule out empyema from the facts that the process in the base of the right lung is not sufficiently dense, that it lacks the sharp, marginal delineation that a localized empyema in this area would produce and that we can see the inner margins of the lower right ribs at the lateral chest wall, and also the right costo-phrenic angle, which, though hazy, is not obliterated.

"Likewise, we can rule out an abscess—there is no evidence of cavity, fluid level or marginal ring of density.

"Tuberculosis has to be considered but is rather unlikely. The location of the process, the absence of fever especially with an area of as much involvement as is shown, the lack of more symptomatology and finally the x-ray appearance itself, are all factors which tend to negate a tuberculous infection.

"Carcinoma is always a possibility in an indi-

vidual of this age. However, one contraindication is that with an area of involvement of this extent, there should be more symptomatology than you have indicated. Second, she does not appear to be wasting away, if one may judge from the preservation of the soft tissues. Third, to produce a rather triangular, segmental density such as is shown here would necessitate a lesion in one of the larger bronchi. And if there were such a lesion, I should expect a shadow of greater density near the hilum, which I do not see. However, from the roentgen standpoint alone, I do not feel we can entirely rule it out.

"Now, if we go back to the illness of last November and accept the fact that at that time she had some kind of an inflammatory condition of the lung—and we must assume that there was at least clinical evidence of an inflammatory process from the way that it was treated—then I think we are safe in assuming from the length of her illness and the fact that it didn't respond any too well to the several different antibiotics that it was not an ordinary type of 'virus pneumonia.' Whatever its etiology, as I see and read the present findings, instead of fully resolving, it went on to produce an interstitial fibrosis, bronchiolar thickening and

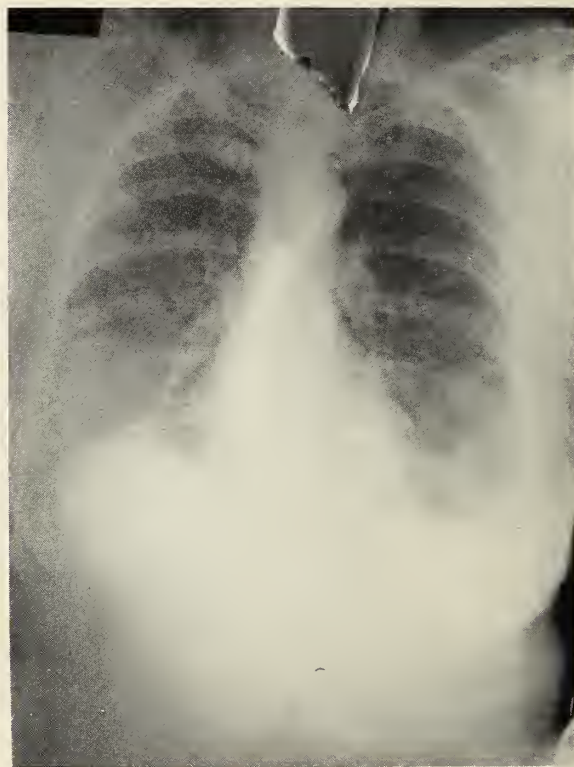


Figure 3. May 31, 1951. Recurrence of right lower lobe involvement is discernible.

some atelectasis in the segment of the right lower lobe which was involved. It is these residual changes which we now see and which account for your findings. Call it a delayed resolution that was responsible or perhaps just the nature of the



process, but I believe the present findings are rather permanent."

Under the impression that the disease process currently represented only delayed resolution, we planned that the patient should be re-rayed after an interval of three or four months. She was raising moderate quantities of clear frothy sputum and was up and about and working. She was given only a form of so-called "lung shrinker" expectorant. On July 10, 1951, she had an inter-current illness of infected ulcer of the left shin due to a minor injury. This healed promptly with tyrothricin dressings, heat, elevation, and Ace bandage. At that time her blood pressure was 130/90 and pulse 72, and her lungs were the same.

On October 18, 1951, a re-examination was done. The radiologist took stereoscopic posterior-anterior views, supplemented by studies in the right lateral and right anterior oblique projection as shown in Figures 4 and 5. The report stated:

"The x-rays reveal a process of interstitial tissue fibrosis and thickening in the right lower lobe of the lung, which is no more pronounced, yet has shown no regression in comparison with the studies taken at Sac City on May 31 of this year. This process of fibrosis has resulted in some con-

postero-anterior projections small shadows of radiolucency which impart a rather honey-comb-like appearance are seen in this right lower lobe. The right middle and upper lobes and the entire left lung field are clear. There are no mediastinal or

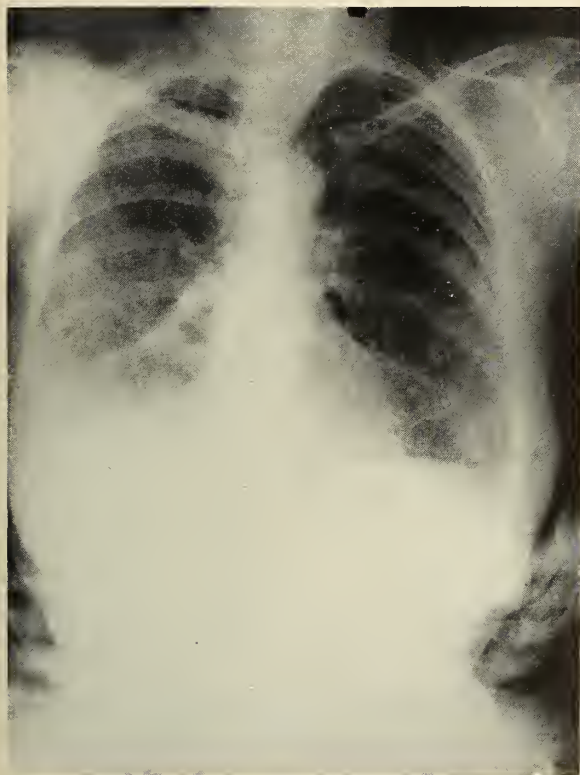


Figure 4. October 18, 1951. Neither progression nor regression is seen after 4½ months.

traction of the right lower lobe. There is no thickening of pleura to indicate either a previous empyema or effusion. No evidence of abscess formation can be visualized in the lung parenchyma of this lower lobe. However, on the stereoscopic



Figure 5. October 18, 1951. Right lateral projection.

hilar masses. The heart shadow is well within normal limits in size and configuration. A mild scoliosis of the thoracic spine with convexity to the right is seen, but no evidence of disease is seen in the thoracic vertebrae on the lateral projection. The ribs show no destructive or productive osseous lesions.

"IMPRESSION: Interstitial tissue fibrosis in the right lower lobe of the lung with some resultant contracture of this lobe which is very likely due to delayed resolution of a previous pneumonia. In addition, it appears that there are some bronchiectatic changes in this right lower lobe."<sup>1</sup>

At this point the pulmonary pathology appeared static and it did not seem that the superimposition of bronchiectatic changes in a woman of 72 would warrant surgery. On November 5, 1951, she had an upper respiratory infection with a recurrence of yellowish phlegm from deep coughing, and a blood pressure of 135/80. She responded at once to penicillin. On January 9, 1952, she had a respiratory re-infection with subscapular aching, and at this time an increase in the amount of frothy sputum raised from coughing was particularly noticeable. Again on February 15, 1952, she had a reinfection, and for the first time rales were distinguishable in the left lower

lung field on auscultation. She was bedfast at home with a bilateral pneumonitis and slowly responded to combined sulfonamide and penicillin therapy. She gained strength and on March 14, 1952, weighed 115 pounds with a white count of

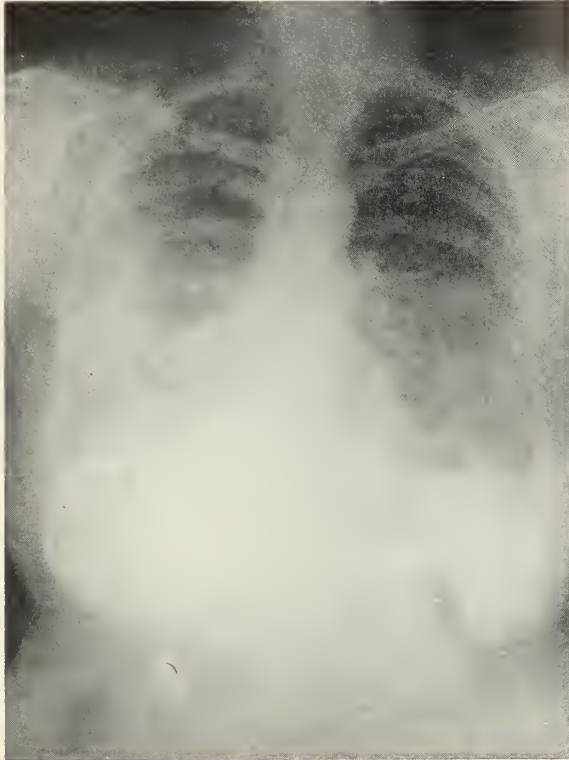


Figure 6. March 14, 1952. Parenchymal involvement has increased on the right and has extended to or arisen in the left lung. The radiologist considered adenomatosis and mycosis.

15,000 and a temperature of 98.5 degrees. She was re-rayed this date, and the following report was given on the film in Figure 6:

"When compared with the films of last May and with our own films taken in October of '51, there is considerably more parenchymal involvement at present than on either of the two previous occasions of which we have the films. As might be expected from the changes which have been demonstrated previously in the right lower lobe of the lung, the findings on the present film are most pronounced on the right side, and although it cannot be accurately determined from the PA view alone, it appears that there may be some involvement in the right middle and base of the right upper lobes as well. In addition, there is now a process of inflammatory reaction on the left side of the chest, whereas the left lung has previously been essentially clear. I can see no evidence of pleural effusion on either side, for although the costo-phrenic angles are hazy, they are not completely obliterated as they would be with an effusion.

"You state that the patient is now convalescing and is ambulatory. I cannot conceive of anyone

being convalescent to a state of being ambulatory with a chest that looks like this—by that I mean a chest that shows evidence of so much infiltrative density—where the etiologic factor or agent is either bacterial, viral or neoplastic. In other words, this patient should be severely ill, clinically, with a chest that looks like this, if it were due to a bacterial or virus infection, or even to a diffuse neoplastic disease such as a pulmonary adenomatosis, or lymphangitic spread of a metastatic carcinoma. You did not mention whether she has any fever or appreciable elevation of white count, but evidently these are not significant if she is convalescing. In the mycotic infections the roentgen findings in the chest appear much more severe than the patient's clinical condition seems to justify. There are some of these which seem to be less virulent in their systemic effect, though producing a lot of local reaction in the lungs. Possibly she has one of these."<sup>1</sup>

Sputum studies were negative for pathogenic fungi and negative again for tubercle bacilli. As the pulmonary condition had now become definitely progressive, with increasing exertional dyspnea and orthopnea and profuse foamy expectoration, the prognosis dubious, and therapy

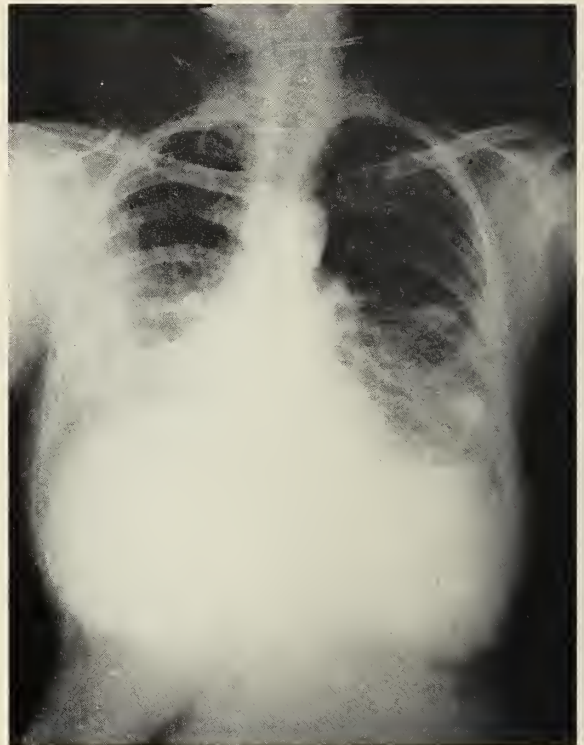


Figure 7. April 8, 1952. Primary alveolar pulmonary carcinoma giving the appearance of diffuse low-grade pneumonitis with fibrosis.

ineffective, it was urged that she go to a university medical center for diagnosis and specific therapy. This she did on April 8, 1952.

The following was the report from the consultant at the State University of Iowa Hospitals:<sup>2</sup>



"She was a chronically ill, thin, elderly woman, obviously dyspneic at rest. She coughed frequently and expectorated up to 80 cc of frothy, mucoid sputum daily. Resonance was impaired over both lung bases posteriorly while the remainder of the lung fields were hyperresonant. Coarse, bubbling rales were heard diffusely over both lung fields. The breath sounds were not markedly altered. The remainder of the examination was non-contributory.

"The routine urine analysis, blood count and differential white blood count were normal. The erythrocyte sedimentation rate was 78 mm. at the end of one hour. Serologic tests for syphilis were negative. X-ray films of the chest revealed a diffuse infiltration involving the lower  $\frac{2}{3}$  of the right lung and the lower  $\frac{1}{2}$  of the left lung. There was slight thickening of the pleura on the right. The x-ray findings were interpreted as more in keeping with a diffuse low-grade pneumonitis than with any other condition. Culture of the sputum revealed the normal mouth flora and a large amount of *Candida albicans*. No other fungi were identified. The acid-fast smear was negative. A guinea pig was inoculated and was later reported to show no evidence of tuberculosis. Cytologic

satisfactory explanation, she was advised to return to the local hospital for 2 to 3 weeks of intensive antibiotic therapy on the chance that she might have an unrecognized bacterial infection amenable to such therapy."

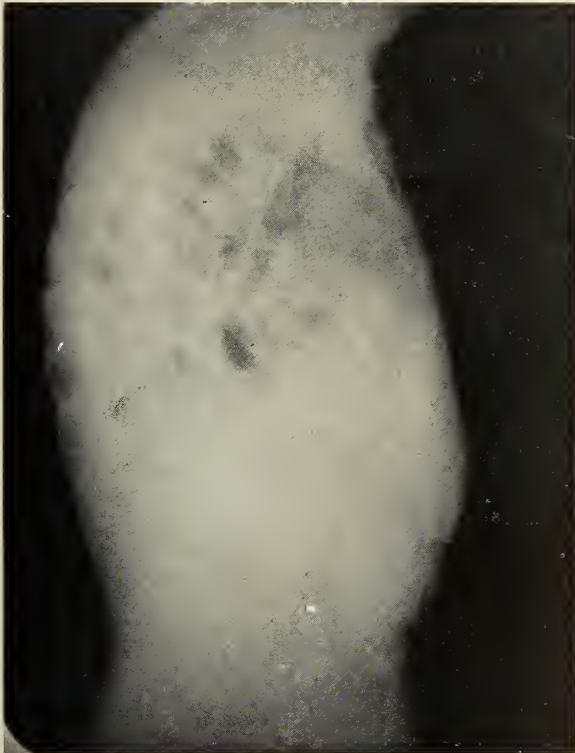


Figure 8. April 8, 1952. Lateral projection shows massive extension.

study of the sputum revealed nothing to suggest malignant disease. Neither bronchoscopy nor bronchography were performed.

"The final impression was diffuse interstitial pulmonary fibrosis. Since this was not a wholly

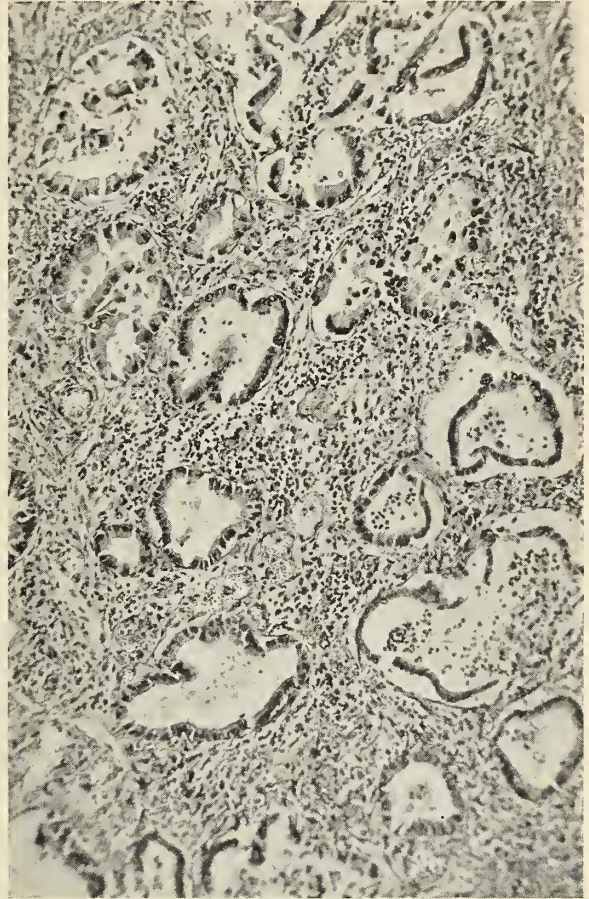


Figure 9. Alveolar cell carcinoma replaces architectural pattern. The cells are in single layers.

Accordingly, on April 17, 1952, she was admitted to Loring Hospital, Sac City, for a course of penicillin and dihydrostreptomycin. A stool specimen was negative for occult blood. She was discharged on April 26, 1952, with some increase in vigor.

She was readmitted to Loring Hospital, Sac City, on August 2, 1952, in a febrile state with cyanosis and acute dyspnea. She had a retrogressive course requiring intravenous feedings and continuous oxygen by nasal catheter. On August 18 she became confused and delirious and demerol narcosis was commenced, but the other therapy excepting oxygen appeared futile and was discontinued. Then, as a curious result of dehydration and reduction of mucus with improved vital capacity, she temporarily rallied. She expired on August 28, 1952.

#### NECROPSY

An autopsy was obtained and performed, and the specimens were submitted to the Department



of Pathology of the State University of Iowa whose report on September 3, 1952, follows:

"Specimen Submitted: Segments of right lung, pericardial sac, diaphragm and liver, portion left lower lobe and piece of aorta.

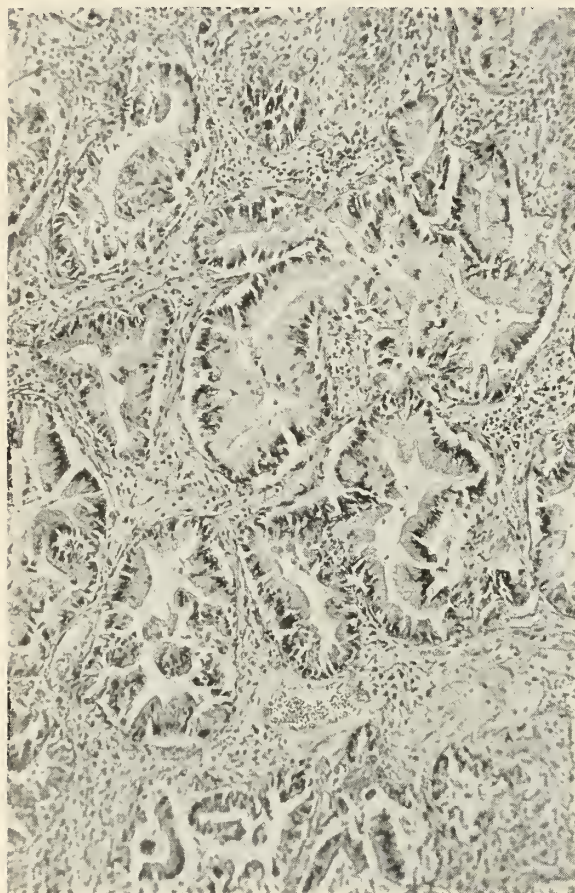


Figure 10. Malignant glandular acini show secretory activity.

"Pathologic Report: The specimen consists of the tissues as mentioned above. The lung tissue on the surface has a decided nodular appearance and multiple coronal sections through all lung tissue show a diffuse consolidation by gray homogeneous tissue. This has the appearance of a so-called pulmonary adenomatosis or possibly Friedlanders type pneumonia. It is of interest that the sections of lung near the diaphragm reveal small cysts that measure approximately 3-4 mm. in diameter, whereas the upper portions of the lungs are diffusely consolidated. The diaphragm is firmly adherent to the lower portion of the lung by means of the tough fibrous adhesions. Sections of the aorta as well as the portions of heart show no significant abnormalities. The liver likewise appears essentially normal.

"Multiple sections of various portions of lung tissue submitted show similar changes. There is complete loss of architectural pattern and replacement by masses of neoplastic tissue. The

neoplastic tissue exists in the form of numerous, well formed and well differentiated acini, many of which appear to be lining the alveolar spaces. These cells are arranged in single layers generally and show active secretory activity. They have a striking resemblance to the bronchiolar epithelium. In some areas these pseudo-alveolar spaces contain desquamated epithelial debris and mucoid material. Between the glandular epithelium there are supporting masses of rather dense connective tissue stroma which in areas is moderately vascular. Also in this stroma are numerous foci of both acute and chronic inflammatory cells, the latter predominating. (See Figures 9 and 10.)

"Sections taken from near the diaphragm in the lung tissue show many of these malignant glandular acini to be cystically dilated and to show atrophic changes accounting for the cystic appearance noted grossly.

"Of the many sections examined, the histological appearance is remarkably uniform in all.

"Sections of hilar lymph nodes show preservation of the normal architectural pattern and no involvement by neoplastic tissue. Some anthracosis is seen, however. Sections of the liver show mild atrophic changes particularly in the central areas, but there is no involvement by neoplasm. Sections through the diaphragm do reveal some rather tough adhesions to the diaphragmatic surface of the lung, but no involvement by neoplasm. Sections through the heart and aorta show no significant abnormalities.

"The neoplasm noted in the sections is the type commonly referred to as 'pulmonary adenomatosis,' or alveolar cell carcinoma of lung. These cases have been seen with increasing frequency and the clinical findings in this particular patient are quite typical of the findings that have been observed by others. The lesion is regarded as a neoplasm, but one which progresses very slowly and frequently does not metastasize. Metastases have been known to occur, however. The neoplastic process is very frequently associated with an inflammatory one and a premortem diagnosis is seldom made. The usual premortem diagnosis is that of some type of an interstitial inflammatory lesion, and it is not until autopsy that the true nature of the process becomes evident. This lesion, alveolar cell carcinoma of lung, is strikingly similar to a disease in sheep known as jagsieckte disease. Within the past four or five years several case reports have appeared in the literature.

Diagnosis: Alveolar cell carcinoma of lung."<sup>11</sup>

#### DISCUSSION

This case strengthens and supports what has already been suggested in the literature as the clinical picture of primary alveolar carcinoma. It was characterized by intermittent cough, with copious production of clear foamy sputum; recurrent attacks of bronchopulmonary infection;<sup>4</sup>



a radiologic appearance of diffuse pneumonitis (the appearance may be patchy or nodular as well)<sup>5</sup> and fibrosis, without evidence of obstruction of a bronchus; and a gradual, halting suppression of pulmonary reserve that allowed the patient surprising activity and subdued the impression of advancing malignancy. At no time did the patient have hemoptysis or pinkish or brownish sputum. Yellow purulent sputum was coincident with infection and after antibiotic therapy always reverted to the clear frothy type.

The Mayo Clinic advised surgical exploration of all indeterminate pulmonary lesions, provided the patient's condition permits.<sup>6</sup> In a series of 114 cases of indeterminate pulmonary lesions, the Mayo group found carcinoma of the lung in 65 per cent and, in the remaining cases, lesions which were best treated by surgical resection.<sup>6</sup> Clinically, however, as this case illustrates, there is an aura of benignity about adenomatosis in its early stages. And, when the clinical syndrome of adenomatosis is unknown, there is a plausibility of a determinate, albeit erroneous, diagnosis such as pneumonitis with delayed resolution that forestalls action.

It is submitted that the clinical picture of primary pulmonary alveolar carcinoma is sufficiently definite to suggest its own diagnosis prior to a surgical diagnosis. Further, since its origin is distal to the bronchus and generally peripheral in the lung, it may be well adapted (as this case was in retrospect) to a definitive pathologic diagnosis by needle biopsy, as with the Vim-Silverman biopsy needle. Microscopic sputum analysis has also been proved effective.<sup>6, 7</sup> McCoy states that "Needle biopsy and cytologic examination of the sputum are two procedures whereby the antemortem diagnosis may be established."<sup>8</sup> Simon states that "The diagnosis can be established during the life of the patient on the basis of biopsy of material aspirated from the lung."<sup>9</sup> Bronchoscopic tissue biopsy or aspirate provides another means of diagnosis.<sup>6</sup> This research indicates that the clinician and pathologist may often assume responsibility for the diagnosis as their opportunity could be expected to precede the time when the need is felt to resort to a diagnosis by surgical exploration.

Watson and Smith<sup>10</sup> cite two five-year cures following surgery for alveolar cell cancer, and are studying a combination treatment of surgery and irradiation. In the case presented, the signs of involvement were limited to one lung and probably one lobe for over a year, and there were no metastases found. This fact, along with the literature indicating that metastasis is infrequent and that its peripheral location makes it more amenable to surgical excision than the usual type of bronchogenic cancer,<sup>10</sup> suggests that early diagnosis and surgical extirpation should be rewarding.

The duplicate terminology used in this report to designate the disease was necessitated by the fact that its pathogenesis is in doubt. An informative

and appealing approach is given by Kano Ikeda, who states:

"Hyperplasia of the lining cells or 'epithelialization' of the alveoli is routinely encountered in certain pulmonary diseases, especially chronic inflammation, and can easily be induced in laboratory animals through injection of chemical or bacterial agents. . . . It may be speculated that alveolar lining cells, made hyperplastic by any of these irritants, may later proliferate and assume a neoplastic character in the lung of susceptible individuals and animals, and, eventually, cause the production of a true tumor composed of cells having the morphologic behavior of epithelium. Thus, the path leading to the fully developed alveolar cell carcinoma of the lung may be assumed to begin as local hyperplasias, often in multiple centers, later developing into benign adenomatosis and finally, becoming carcinomatous."<sup>11</sup>

#### BIBLIOGRAPHY

1. Moore, Edson E., Fort Dodge: Personal Communications.
2. January, L. E., University Hospitals, Iowa City: Personal Communications.
3. Carter, J. R., Dept. of Pathology, Iowa City: Personal Communications.
4. Freedman, Benjamin: *Am. Review Tuberculosis*, Vol. 60, No. 2:258-264 (August) 1949.
5. Neuburger, Karl: *J. Thoracic Surg.*, 10:557-565 (Oct.-Aug.) 1940-41.
6. Good, C. A.; Clagett, O. T.; McDonald, J. R.; and Griffith, E. R.: *Am. J. Roentgenology* 64:1-19 (July) 1950.
7. Hatfield, W. H., and Hill, J. E.: *Am. J. Roentgenology*, 62:525-531 (Oct.) 1949.
8. McCoy, H. I.: *Annals Int. Med.*, Vol. 34, No. 4:968-983 (April) 1951.
9. Simon, M. A.: *Am. J. Clin. Path.*, Vol. 17, No. 10:783-797 (Oct.) 1947.
10. Watson, W. L., and Smith, R. R.: *J.A.M.A.*, Vol. 147, No. 1:7-13 (Sept.) 1951.
11. Ikeda, Kano: *Am. J. Clin. Path.*, Vol. 15, No. 2:50-64 (Feb.) 1945.

State University of Iowa  
College of Medicine

#### CLINICAL PATHOLOGIC CONFERENCE

February 18, 1953

#### SUMMARY OF CLINICAL FINDINGS

THIS 18 YEAR OLD, white housewife entered the hospital because of anuria of two days' duration. Three weeks before admission she had a severe sore throat which subsided in about a week without specific therapy, and one week before admission she noticed low back pain and dark urine.

She was hospitalized elsewhere and was told she had high blood pressure and kidney trouble. Her physician reported the blood pressure to be 200/100 mm. Hg., and the urine was grossly bloody. Intravenous pyelograms showed no function. Urinary output gradually diminished. Treatment consisted of aminophyllin, bladder irrigations, hot packs, and intravenous fluids. She was unable to eat because of vomiting.

Three months before the present illness she gave birth to a normal infant. One episode of pyuria and ankle swelling, both of short duration, occurred early in the pregnancy. Two previous

pregnancies had been normal. There was a vague childhood history of "kidney trouble" accompanying chicken pox.

The physical examination revealed an obese, oriented, white female acutely ill. Fundoscopic examination showed some spasm of the optic arterioles. The chest was clear to auscultation and percussion. The precordium was overactive, and the left cardiac border was at the anterior axillary line. A loud systolic murmur was heard. The blood pressure was 170/100 mm. Hg., and examination of the abdomen was negative. There was a trace of pitting edema about the ankles. The venous pressure was grossly normal.

The blood hemoglobin was 10 Gm. per 100 ml., the red cell count 4.1 million per cu. mm., the white cell count 10,400 per cu. mm., and blood chlorides 620 mg. per 100 ml. The serum sodium was 336 mg. per 100 ml. and the potassium 30.5 mg. per 100 ml. The blood urea nitrogen was 111 mg. per 100 ml. and the creatinine was 11.5 mg. per 100 ml.

The day after admission a small quantity of urine was obtained which, by chemical tests, showed 4+ albumin and 4+ blood. The microscopic examination revealed many red blood cells and granular casts. Twenty-four hours previously catheterization of the urinary bladder failed to show the presence of urine.

A right retrograde pyelogram revealed a normal kidney pelvis. As an emergency procedure, a bilateral renal decapsulation was performed under general anesthesia. The patient tolerated the procedure well.

For the next ten days her condition steadily deteriorated. The daily urinary output averaged 35 ml. Vomiting continued. She was given glucose by vein and formula by stomach tube (100 Gm. of peanut oil and 400 Gm. of glucose in 1000 ml. of water). On the second post-operative day, fever, ranging to 103° F., developed, and penicillin was given. The blood pressure dropped to 140/80 mm. Hg. A "tic-tac" cardiac rhythm was heard.

On the fifth post-operative day the patient was inadvertently given 600 ml. of 0.9 per cent saline intravenously. Shortly thereafter signs of cardiac failure with marked pulmonary edema appeared. Venous blood, 500 ml., was removed and Wangenstein suction was instituted.

During the next five days she had repeated episodes of acute pulmonary edema. Digoxin, 0.8 mg., was given intramuscularly. A pericardial friction rub appeared on the eighth post-operative day and coma developed. The blood urea nitrogen at this time was 146 mg. per 100 ml., and creatinine 19.4 mg. per 100 ml. The blood pressure dropped to 130/80 mm. Hg. on the day of death. She died quietly on the tenth day following admission.

#### CLINICAL DISCUSSION

*Dr. Elmer L. DeGowin, Internal Medicine:* The management of this patient brought up the problem, always very much feared in clinical med-

icine, of the diagnosis and treatment of anuria or oliguria. Of course, that condition is a symptom or syndrome, and not a disease in itself. Perhaps, before we consider the case history in detail, we might consider the causes of anuria or oliguria.

In the first place, we have to define the term, and here some errors are frequently made by clinicians who do not realize that any output of urine less than 600 cc. per day on the average and even in a person who is otherwise normal will not be sufficient to clear the products of metabolism and will lead to azotemia in the adult. We must define as an oliguria any average daily output of urine of less than 600 cc. The mistake has been made many times of presuming that because the patient puts out some urine there is not serious disease of the kidneys.

In the recent edition of Cecil and Loeb's text on medicine, there is a good discussion of the causes of anuria or urinary suppression, and we wish to mention the various etiological categories. One is dehydration and loss of plasma and loss of blood. This in itself will temporarily at least produce suppression of urinary function. The second is shock in any form, with hypotension severe enough to interfere with the circulation of the kidney. The third category, transfusion reaction, perhaps is not specific enough because we do not know the exact mechanism by which free hemoglobin in the blood plasma affects the kidney. We do know that when large amounts of hemoglobin are released suddenly in the vascular system or injected into the vascular system, anuria or oliguria may occur. Fourth, there are certain kinds of poisoning. Some reactions to poisons resemble allergies, and it is known that in some allergic reactions anuria or oliguria occurs. Sulfonamide drugs, occasionally, and toxic reactions due to bichloride of mercury are among some of these poisons. It is known that this complication occurs occasionally in acute glomerulonephritis. Another category is interference with the circulation of the kidney by embolism, thrombosis, and other causes and mechanisms which are not very clear, such as ascending pyelonephritis.

It is known that patients in the advanced stages of glomerulonephritis also may develop this complication. There are occasional instances in which trauma to the kidney or the genito-urinary tract, calculi in the genito-urinary tract, or instrumentation of that system produce a reflex type of anuria. Obstruction of the ureters obviously will produce anuria, and this sometimes occurs after surgical operations in which the ureters are not correctly identified. It also occurs from the precipitation of sulfonamide drugs in the genito-urinary tract and from neoplasms infiltrating the ureters, both sides.

Another one which is not too well appreciated is the possibility of anuria or oliguria during the rapid accumulation of edema. Either edema of cardiac failure or very extensive angioneurotic edema will sometimes do it. Another one which



we don't see very often any more occurs during the consolidating stage of lobar pneumonia. The urinary output then may be very slight for a few days, the reason being that the lung is accumulating a lot of sodium chloride in the consolidated lobe and is not available for urinary excretion.

With some of these things in mind, you can reconstruct the problems we had when this patient came into the hospital with approximately the history which was presented. We had very little history, as frequently is the case, though it was learned that the patient had a sore throat three weeks before the onset of the period of oliguria, which immediately, of course, suggested the possibility of acute nephritis.

In the differential diagnosis of the various types of nephritis, we have not come very far in the last 25-30 years. I think we have a healthier outlook toward the subject than we had at that time, but we are still likely to be confused in reading textbooks. In Osler's *Medicine*, 10th Edition, 1926, the disease was classified as acute nephritis and chronic nephritis. Under chronic nephritis there were two large divisions: chronic parenchymatous nephritis and chronic interstitial nephritis, and there was another heading, amyloid disease.

The names have changed slightly. In the last edition of Cecil, 1951, we read about glomerulonephritis. We talk about arteriolar nephrosclerosis and the nephroses and miscellaneous diagnoses. However, in practice I think we've come some way since 1926. At that time very little was known about renal physiology, and very few tests were available for evaluating renal function. The big game was for the clinician to try to guess what the kidneys were going to show under the microscope at autopsy. He went through these symptoms, signs, and so on, trying to out-guess the pathologist on them.

This was also the time of the pathologist's dogmatism. The pathologist had for many years convinced the clinician he always had the answer. I think in many ways we have been very fortunate here that our pathologists have never tried to convey that impression. I know that as a medical student I was convinced that the pathologist always had the answer and that it must be right if the pathologist said so. It took me many years to find out that his methods weren't sacrosanct, that they were certainly capable of many interpretations, and their answers were merely opinions.

At the time, I was interning at another hospital. I know that the clinicians were worried about their inaccuracy in predicting what was ultimately to be found at autopsy. Together with the pathologist, they agreed they would have certain criteria for the diagnosis of this thing and certain criteria for that one, and then the pathologist was going to referee and tell them the answer each time. This went on for some time, with a certain percentage of correct diagnoses being made clinically until the clinicians got a little suspicious and one

week shoved in a few slides that had been diagnosed 4-5 weeks before. With discrepancies in the diagnoses, the experiment fell through.

I think Dr. Carter will bear me out that by the time many of these patients reach the autopsy table, the lesions in the kidneys are pretty complicated and the pathologist has a hard time, too, deciding what transpired. But our attention gradually shifted in this respect; I think we recognized, although it isn't clearly stated at any one time, that this differential diagnosis that you read about in a case of nephritis is usually made in retrospect, after you have followed the patient for many months. You don't make it the first time you see the patient. If he gets well entirely and shows no residual difficulty, you may come to the conclusion six months afterwards that it was a case of acute nephritis, and, if the patient doesn't get well, you may conclude after many months that he had chronic nephritis all the time or that the acute nephritis passed into a chronic stage.

I believe we have taught, in the past at least, that which is wrong; that here is something which can be diagnosed in a day or two by taking a history and doing a physical examination and some laboratory work. It's not true. Furthermore, the patient can have chronic nephritis for years without his physician's discovering it, either because laboratory findings are normal, or because of lack of symptoms. Then a flare-up may occur which is interpreted as acute nephritis when it actually is an exacerbation of chronic nephritis.

A history, as in today's case, of a sore throat just three weeks before suggests the onset of acute nephritis, and we hope it actually is acute nephritis because in general the prognosis is better than in chronic nephritis. The condition seems to be in some cases, at least, more reversible. We find that the patient had hypertension when she came into the hospital; the blood pressure of 200/100 mm. Hg. could not be construed as being in favor of nephritis or anything else, whereas many people with normal blood pressures, when they develop anuria from any cause, may continue to have normal blood pressures. There are 30 per cent or so of those patients who do develop hypertension within a few days.

This patient had a large amount of fluid administered intravenously before she came into the hospital, after she had developed oliguria. That probably is very significant as regards what was found later because we now recognize that a patient who is not putting out urine can easily have his circulation overloaded and his electrolytic balance easily upset because the normal governor of the electrolytic and water balance, the kidney, is not operating. We have come around to a point where we don't try to force the fluid through the kidney by running it into the vein by gravity. That won't work.

There was a hint in the history that perhaps this was not acute nephritis because the patient had one attack of pyuria during pregnancy, three

months before. There was a hint that she also had had some trouble in childhood. The hemoglobin at the time of admission was slightly lower and the red cell count was perhaps a little less than normal, but there again we are not to conclude the patient had anemia. The patient was not putting out water in the usual volume and had had a large quantity of fluid intravenously. Of course, it is possible that the total number of red cells in the body was normal, but that the concentration was less than normal because of an increased fluid volume.

Some of the initial blood-chemical findings, the blood chlorides, if the determination represented whole blood chlorides, were also a little high. If this were plasma chlorides, although I don't know which, they were within normal range, 620 mg. per 100 ml. The serum sodium was within normal range, and the serum potassium was 30.5 mg., which was high. However, that is not the initial reading; that reading was taken after several days in the hospital. The initial reading found on the chart was 22.3 mg. potassium, which is within the normal range. The blood urea nitrogen, of course, was very high as was the creatinine. Now, how fast do those readings go up in an acute anuria? Well, they go up pretty fast. We have had occasion here to follow patients who have had transfusion anuria and who had a normal blood urea nitrogen the day before. The readings of BUN for the first few days practically doubled each day. So, it would not be surprising if this level had been attained in 3-4 days of complete anuria.

The examination of what little urine was put out is not very significant here because the volume was too small. The fact that there was so much albumin in a kidney where the circulation was as poor as this would not be of any particular significance; it certainly wouldn't help us with a diagnosis. The only diagnostic feature that might possibly be encountered in urine with severe oliguria is the one occurring within a few hours, or minutes, of a hemolytic transfusion reaction, and if one looks, one can see large casts composed of hemoglobin pigment. They persist for a day or so.

As you will note from the protocol, decapsulation of the kidney was performed on this patient, and that will be discussed later by Dr. Flocks. The regimen which was attempted on this patient was introduced in England several years ago by Bull and his associates and consisted of giving by stomach tube 100 Gm. of peanut oil and 400 Gm. of glucose in a liter of water during the day and then saving any vomitus that the patient brought up, filtering it, and then putting it back in the stomach tube. This is based on good logic. The average loss of water from the skin and the breath is about a liter a day, possibly a little less. This is so-called insensible perspiration. If the patient is not sweating and is putting out no urine, that is the total loss of body water per day. Therefore, in the presence of renal failure, taking in more

water than a liter would mean an upset of the water and electrolytic balance of the body. This regimen was adopted as the simplest procedure to keep the electrolytic balance approximately normal in the face of anuria. Many patients before an upset balance is recognized have been helped on their way by intravenous fluids.

Now, time is getting short and I shall call on Dr. Forbes for the x-ray findings.

*Dr. Stephen A. Forbes, Radiology:* A preliminary film of the urinary tract shows a radio-opaque catheter in the course of the right ureter. No abnormal soft tissue mass can be seen throughout the abdomen, but there is opaque material scattered throughout the colon, probably residual barium from a gastrointestinal tract examination. The subsequent film shows instillation of opaque medium in the right ureter, kidney pelvis, and calyces. These are all entirely normal in contour. No stones can be seen.

*Dr. DeGowin:* The clinical diagnosis at this time was probable acute nephritis, although we were well aware of the great doubt about it. Inasmuch as anuria from acute nephritis possibly had a better prognosis than any other condition, we diagnosed it from the history. The patient had not had any transfusions or any drugs that we knew of. We thought she deserved the benefit of the doubt, and Dr. Carter will present the autopsy findings.

*Dr. John R. Carter, Pathology:* The principal findings at autopsy were a severe progressive acute and subacute glomerulonephritis, secondary acute pyelonephritis, uremia, and severe pulmonary edema and lobular pneumonia. The detailed histologic and gross changes in this particular case will be presented as a part of some remarks I'd like to make on nephritis in general, with an attempt to present a composite picture of what might have been going on in this patient and in other patients with a similar disease process. There is probably no other organ in the body in which an accurate knowledge of the fundamental anatomic and physiologic unit is so important to the understanding of its disease as the kidney.

A nephron unit is composed of the vascular supply, the glomerulus and Bowman's capsule, the tubules, and peritubular plexus of vessels. There is no glomerular by-pass between the afferent arteriole and the efferent arteriole. This means, of course, that the blood supply going into this glomerulus supplies the glomerulus as well as its tubular system, so if there is any obstruction to the blood supply, the given nephron unit suffers as a result. There is a tremendous reserve on the part of the kidney. One can ablate approximately 90 per cent of the kidney without there being any evidence of renal insufficiency.

According to present day thought, the endothelial cells of the glomerulus have a basement membrane beneath which is a layer of primitive fibroblastic tissue. The point I would like to emphasize is that in all probability, glomerulo-ne-



phritis is not a disease of the endothelium or epithelium of the glomerulus, but a disease of the ground substance and the connective tissue present between the basement membranes of the endothelium and the epithelium. Therefore, in this sense, glomerulonephritis can be thought of as a disease similar in many respects to other collagen-vascular diseases such as rheumatoid arthritis, rheumatic fever, polyarteritis nodosa, etc. At any rate, the inflammatory reaction which occurs seems to be predominately that of the ground substance and the mesenchymal tissue.

There is another fundamental concept which requires mention, namely that of glomerular intermittance, the number of nephron units functioning at any one time. Homer Smith, employing clearance methods, has indicated that glomerular intermittance does not occur in mammals. Recent work by other investigators has shown that in rabbits and in rats glomerular intermittance does occur. The importance of whether it does or does not occur is that if one does not assume the occurrence of glomerular intermittance, it is exceedingly difficult to explain the pathologic changes one does see in glomerulonephritis.

Another important factor, too, is that the clinical and histological response can be and is, in most instances, well correlated, but both are proportional to a number of variables. One of these is the intensity, or the severity, of the disease process. As in other diseases, there may be mild or severe forms of glomerulonephritis. Another variable is the number of nephron units that are functioning at any given period of time, the idea of glomerular intermittance. It is quite possible, and seemingly true from a correlation of clinical material and pathologic findings, that at times many of the glomeruli are not involved by the disease process. What one sees clinically and pathologically is a composite picture of what is happening to some 2,000,000 nephron units at any given period of time. The third variable that the clinical and pathologic responses depend upon is the kidney reserve. If there has been previous infection where perhaps some 50 per cent of the nephron units are damaged or obliterated, and an acute nephritis is superimposed, the clinical and pathologic picture may be decidedly different from an acute nephritis in an otherwise perfectly normal kidney.

In acute glomerulonephritis, the glomeruli are large. There is an increase in the number of cells present in these glomeruli and there is some interstitial edema. Other changes that one commonly finds in acute glomerulonephritis are large numbers of red blood cells and white blood cells in the glomeruli. One of the characteristic features of this stage of the disease is a tremendous increase in capillary permeability, both to red cells and to albumin. And the edema which is frequently seen in the acute phase of the disease has usually been ascribed to the increased capillary permeability of vessels throughout the body.

In a later stage in the development of the disease, we have the hallmark of nephritis, namely, the proliferation of the endothelial and epithelial cells of the glomeruli. Glomerulonephritis is, fundamentally, an acute inflammatory reaction of the glomeruli, an acute glomerulitis, and the tubular, interstitial, and vascular changes that one sees later on in the disease process are considered to be secondary to the inflammatory and proliferative changes in the glomeruli. Histologically, the kidney may show predominantly the changes of subacute glomerulonephritis. On the other hand, the patient might still have symptoms of acute glomerulonephritis. How are these to be explained? The point is that not all of these glomeruli are inflamed; many are normal. Some may show scarring and fibrosis and others may show an acute type of reaction, all within one small area of kidney. The clinical picture, as previously mentioned, is in part dependent upon the composite functioning of all 2,000,000 nephron units. The tubular segments supplied by these particular glomeruli (subacute stage) are undergoing degeneration or outright necrosis. When this happens, even though some filtrate is escaping, most of the fluid is going through the tubular epithelium like water through a sieve, which accounts, in a large part, for the interstitial edema that you see in the kidney in this stage. In short, tubular reabsorption fails.

Today's case, from a histologic standpoint, shows both acute and subacute changes. Many of the glomeruli show an exudative response in the sense that there is acute inflammation, but it also is proliferative in the sense that there is proliferation of endothelial and epithelial cells together with the tubular damage.

A still more advanced stage often shows even more proliferation of the epithelium and endothelium and tremendous amounts of interstitial edema separating the tubules. There may be extensive damage to the tubular epithelium, chiefly because the blood supply gradually has been cut off. There is now no longer enough blood going through these glomeruli to nourish the tubular epithelium.

Infarctions are one of the changes that can occur as the result of increased intrarenal pressure due to interstitial edema. This pressure may exceed the pressure present in the arterioles, and the blood supply gets cut off rather suddenly. The patient might have had more infarcts had she not had a decapsulation procedure.

The biopsy specimen taken some 16 days before the patient died showed a few glomeruli in the proliferative phase, but most of them were in the so-called exudative stage. It was an earlier stage and not characterized so much by the extensive proliferation we found at the time of autopsy.

If the patient had lived, and the majority of the nephron units had not been affected, the changes might have progressed to the chronic stage.

The right and left kidneys in this particular



case weighed 450 Gm. and 500 Gm. respectively, which is approximately twice normal size.

One last point that I should like to make is that of the classification of glomerulonephritis into acute, subacute, and chronic. More mistakes are made by trying to pigeon-hole signs and symptoms into an acute or subacute or chronic category, than by thinking about what is happening to the nephron units. They are the functional units, and there are some 2,000,000 of them. What one sees at any one time clinically or pathologically is a composite picture of what is happening to all of these nephron units simultaneously.

#### SUMMARY OF NECROPSY FINDINGS

The principal findings were those of a severe, progressive acute and subacute glomerulonephritis with secondary acute pyelonephritis, uremia, severe pulmonary edema, and lobular pneumonia.

The left and right kidneys weighed 460 and 500 Gm., respectively. The capsules had been stripped (operative procedure). The organs were turgid, swollen, and edematous. The surfaces showed myriads of petechiae. A 4 x 2 x 1.5 cm. area of recent infarction was present at the lower pole of the left kidney.

Microscopically the changes were both exudative and proliferative, predominantly the latter. Most of the glomeruli revealed active endothelial and epithelial cellular proliferation; some showed fibrosis and hyalinization, whereas others exhibited an acute exudative glomerulitis. Tubular damage was severe and wide-spread, varying from cloudy swelling to frank necrosis. Interstitial edema was conspicuous, and superimposed were linear streaks of acute suppurative cellulitis. The vessels appeared essentially normal.

As compared with the tissue changes seen in the biopsy taken on the day of admission, the disease process had progressed considerably, being characterized by predominantly proliferative changes, as opposed to exudative ones. At autopsy, the blood urea nitrogen was 228 mg. per cent, and the creatinine 20 mg. per cent.

#### NECROPSY DIAGNOSIS

Acute and subacute glomerulonephritis.

Acute pyelonephritis.

Pulmonary edema, congestion, and hydrothorax.

Lobular pneumonia.

Congestion of viscera, severe.

Chronic cholecystitis with cholelithiasis.

*Dr. DeGowin:* The object of treatment here in a case of anuria in which we suppose the cause to be acute nephritis was to maintain the water and electrolytic balance as nearly normal as possible for as long a time as possible in the hope that nature would aid in the healing process and heal the kidneys enough to make them function again. *Dr. Flocks*, in a series of patients that he carefully studied here, has had some experience with decapsulation in acute nephritis in relieving the interstitial pressure that way and with some hope-

ful results. For that reason he performed a decapsulation on this patient, and I should like to have him discuss that at this time.

*Dr. Rubin H. Flocks, Urology:* As has been emphasized, the important function of the physician in dealing with a patient of this type is to carry him or her through the period of oliguria by maintaining adequate metabolic equilibrium until the acute phase of the injury is over and, secondly, to aid the patient in his or her efforts to overcome the effects of the injury to the kidneys.

*Dr. DeGowin* has discussed briefly the conservative therapy. In addition to this, external dialysis may be of very definite value. This is particularly true with regard to the control of hyperpotassemia. Peritoneal lavage and intestinal lavage have proved to be of little value as a means of successful external dialysis. The best techniques have involved the so-called artificial kidneys.

Conservative therapy, as outlined by *Dr. DeGowin*, as well as external dialysis, as I have just briefly described it, have as their purpose the maintenance of the patient through the period of renal insufficiency until the kidneys are able to overcome the acute injury and take over their function again. Of course, if the renal injury or renal damage has been too severe, they cannot return to adequate function, and renal insufficiency persists. In some renal lesions, particularly in the acute nephritides, there is much increased interstitial pressure. This has been demonstrated by many workers, the most important of whom is *Lucke*. In such cases the increased intrarenal pressure prevents adequate renal blood supply and thus impairs the kidneys' ability to overcome the inflammatory reaction within them, and undergo satisfactory repair. Renal decapsulation may relieve the intrarenal tension and aid the kidney in overcoming the injury. In 5-6 cases which *Dr. Vest* reported, renal decapsulation, in cases as described above, resulted in marked diuresis and rapid improvement within 24 hours following decapsulation. We have had similar experience in an equal number of cases. It would seem, from the amount of chronic change demonstrated by *Dr. Carter*, that there was so much injury to the kidneys in this case that the renal decapsulation was not enough to aid the patient in overcoming her superimposed acute nephritis.

Renal decapsulation, as can be seen from the above discussion, is only an adjunct to other therapy and shouldn't be depended upon as the sole therapy. It is of value in only those cases, usually acute nephritis, where there is an associated increased intrarenal pressure.

*Dr. DeGowin:* Are there any more questions or discussion?

*Dr. Robert L. Jackson, Pediatrics:* *Dr. DeGowin*, one point you didn't seem to mention was that this was an 18 year old who had had three pregnancies prior to the onset of her difficulty. It has been my general impression that patients

(Continued on page 234)



# *The* JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

*Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12*

Vol. XLIII

JUNE, 1953

No. 6

## 1953 ANNUAL MEETING

The annual meeting of the Iowa State Medical Society undoubtedly will be remembered as a particularly fine one by those who attended it. The members who registered numbered 846; the medical visitors 121; the exhibitors 137. In addition, 192 members of the Woman's Auxiliary attended, making the total 1,325.

The meetings of the House of Delegates were especially well attended, both by the delegates themselves and by other members who came to observe. The deliberations of the House are to be printed in the official issue of the JOURNAL, in July, so that members who were unable to attend can acquaint themselves with the business transacted and with the decisions arrived at.

One of the happiest occasions during the meeting was the presentation of awards of merit for long years of devotion and service to the Iowa State Medical Society. The citations, which the Society will have framed, were presented to Dr. L. R. Woodward, of Mason City; Dr. H. E. Farnsworth, of Storm Lake; Dr. Gordon F. Harkness, of Davenport; and Dr. Charles T. Maxwell, of Sioux City. All members of the Society are glad of this opportunity to express to these men their gratitude for what they have done for the organization.

Dr. Pierre Sartor, of Titonka, was chosen the outstanding general practitioner of the year. We congratulate him for his many years of useful service to his community.

The Blue Shield meeting filled the assembly hall, manifesting the interest of the members in the success of the medical service program. Dr. Martin I. Olsen and two actuaries, Mr. W. F. Poor-

man and Mr. P. C. Irwin, were given gold watches in recognition of their hard work and valuable leadership in Blue Shield affairs, the presentations being made at the Annual Banquet.

The program committee is to be complimented on the excellence of its selection of speakers for both the general and the divisional sessions. Favorable comments were made regarding the excellence of the presentations. Copies of the papers have been submitted to the JOURNAL and will appear in print during the coming year.

The scientific exhibit was again held in the Midtown Roller Rink and proved to be exceptionally good. The fact that this exhibit was well attended and enthusiastically received will in some measure express the appreciation of the membership to the physicians who made it possible. A maximum number of commercial firms again assisted the committee by setting up attractive displays and by providing entertainment for the members and their guests. The representatives of these companies who call frequently at doctors' offices deserve thanks for their firms' contributions to the success of the 1953 meeting.

The Woman's Auxiliary meetings were well attended. The speakers there included Dr. Louis Bauer, President of the AMA, and (in an unscheduled appearance) Hal Block, of television fame.

Now that the 1953 session is over, plans are underway for the annual meeting in April, 1954, in Des Moines. We of the state office shall be happy again to welcome all those who attended this year's meeting, and we hope that many others will plan now to attend the next session.

## CARDIAC SURGERY

The recent visit of Dr. Charles P. Bailey, of Philadelphia, who addressed the State Medical Society in Des Moines last week, has very forcibly emphasized the fact that cardiac surgery is now a very real part of our therapeutic armamentarium.

Only in recent years have techniques been developed and perfected which have lowered the mortality risks in heart surgery to a remarkably low percentage. Even this low mortality rate may still be improved upon when and if our cardiac patients who are amenable to surgical correction are brought to the surgeon while they are favorable operative risks. Congenital defects and valvular defects, which will inevitably produce decompensation and early death, can keep up the mortality rate only if deferred until irreversible changes occur which force the patients upon the unwilling surgeon as a last resort. The diagnosis of a patent ductus or a co-arcation of the aorta in an otherwise normal person is now an indication for surgical correction, just as is a congenital hip. Upon correction, the patient proceeds through life with a normal heart. Many septal de-

fects are now corrected with very good results.

The largest group of cardiac cripples who are benefitting by modern surgery are those who have suffered damage from rheumatic heart disease. Now up into the thousands have been corrected by surgical widening of the stenosed valve, and many of these have returned to industry and normal life. So far most of this work has been developed in the larger centers of the East. An isolated case from Iowa has occasionally gone there for correction. Now we find they are being cared for in all parts of the country, and Dr. Bailey's visit has done much to enlighten us on the possibilities in a field which seemed hopeless.

The fact that a dry clinic was held and a few cases evaluated and operated in Des Moines at the time of the convention has alerted the public to some of the possibilities of cardio-vascular surgery. Arrangements have been made to assure the necessary roentgenological equipment which will qualify Raymond Blank Hospital as a cardiac center. This is a real advance in medicine.

#### METHIONINE AND THE SURGICAL PATIENT

The essential amino acid methionine has received consideration as a therapeutic agent since 1940, when it was shown that methionine prevents chloroform injury to the liver in protein-depleted dogs. Its use in hepatic cirrhosis was somewhat disappointing, however, in that there appeared to be no benefit in giving methionine in amounts greater than those contained in a diet adequate in protein. In fact, some workers reported toxic effects from administration of large amounts of methionine to patients whose liver function was impaired.

The relation of methionine to wound healing has been studied since 1945. The tensile strength of the scar, as well as the rate of scar-tissue formation in experimental wounds, was favorably affected by administration of methionine in animals receiving a diet low in protein. The favorable effect was shown to be related to the greater intake and retention of protein sulfur in these experiments. Sulfur administered in other forms and other essential amino acids did not produce the same results.

Probably the most spectacular experiments are those demonstrating normal wound-healing in animals which have lost as much as 35 per cent of their body weight as a result of protein-deficient diets. These results can be produced if methionine supplements are given in the diet. Wounds in such animals heal at the same rate and in the same manner as those in normally fed animals, even though their protein-depletion is extreme. The failure of wounds to heal properly on unsupplemented protein-deficient diets is well known.

These experimental observations may have distinct practical clinical application. Every surgeon has been confronted with the post-operative com-

plications due to inadequate wound healing in patients who are debilitated and cachectic. It is obvious that the ideal of perfectly adequate nutrition both before and after the operation would prevent many complications due to impaired wound healing. This ideal is difficult or impossible of attainment in many instances. Perhaps administration of this essential amino acid could be accomplished in some of those cases where ideal nutrition is not possible. Methionine is inexpensive and is supplied in many different forms.

An even better approach to the problem of providing adequate caloric, mineral and protein elimination may be the use of protein hydrolysates and other enriched liquid diets which are commercially available now. Polyethylene tubes and drip administration directly into the stomach provide the surgeon with a satisfactory means of assuring adequate nourishment in postoperative or debilitated patients who have surgical, traumatic, or other tissue defects to heal. An incidental benefit to this type of management is the safe administration of electrolytes to the surgical patient.

#### EACH MEMBER CAN HELP

The 1953 legislative session is over, and the members of the Iowa State Medical Society can see what was accomplished. A year ago the House of Delegates approved the appointment of a committee to study the problems of the Board of Medical Examiners. This committee was also authorized to make recommendations to the Legislative Committee. These recommendations were incorporated into a bill, S.F. 47, which won unanimous approval of the Senate in January and passed the House late in the session. The principal changes brought about by this new law are (1) increasing the Board of Medical Examiners from three to five members (2) raising the renewal of license fees from one to three dollars (3) providing an adequate budget of approximately \$14,000 per year for the Board (4) providing an orderly procedure for licensing of D. P. and other foreign physicians, including a declaration of intent to become citizens and (5) providing for temporary licensing of resident physicians.

The members of the Board of Medical Examiners feel that this new law gives them the opportunity of setting up an adequate licensing program. Many members of the Iowa State Medical Society did effective work in presenting the facts about this bill to members of the legislature. The value of having a statewide legislative organization was also demonstrated. It is essential, however, that the contacts established with legislators be continued now that the legislative session is over. We don't want the legislators to feel that they see the doctors of the community only when they are sick or when the doctor wants to have a bill passed. The physicians of the community should be the consultants of the legislators on all health matters.





DR. H. E. FARNSWORTH



DR. CHARLES T. MAXWELL



DR. GORDON HARKNESS



DR. L. R. WOODWARD

### 1953 MERIT AWARDS

Four Iowa physicians were presented awards of merit by the Board of Trustees of the Iowa State Medical Society at the Annual Meeting held in Des Moines April 26-29, 1953. They are Dr. H. E. Farnsworth, of Storm Lake; Dr. Charles T. Maxwell, of Sioux City; Dr. Gordon Harkness, of Davenport; and Dr. Lee Roy Woodward, of Mason City.

Dr. Farnsworth served for many years as a member and as chairman of the Society's Committee on Child Health and Protection and for the past three years he has devoted much time and energy to the State Board of Medical Examiners.

Dr. Maxwell, a specialist in surgery, received his award for numerous contributions in the field of medical economics. He served as Chairman of the Committee on Medical Economics when Iowa Medical Service, better known as Blue Shield, was formed, and he has continued to contribute to the success of that program, so that now it is serving more than 400,000 Iowans.

Dr. Harkness also had a share in the establishment and growth of Blue Shield, but he was recognized by his colleagues particularly for his years of service to the Society as a trustee and, later, as president. His professional specialties are ophthalmology and otolaryngology.

Dr. Woodward, who also played a part in the establishment of Blue Shield, was recognized especially for his work as a committee member, district councilor, trustee, president-elect and president. He limits his practice to internal medicine.

### DR. H. M. THARP OF MONROE HONORED

On the 6th day of April, nearly 400 persons from the town of Monroe, Iowa and environs gathered for dinner in the High School gymnasium, to honor their community physician for 25 years of appreciated and obviously meritorious service. In spite of the fact that Dr. Tharp knew

a special meeting of the Commercial Club was to be held—he even helped to sell tickets—the true purpose of the meeting was successfully kept as a tremendous surprise for him, which was in itself a remarkable feat. The actual program was patterned after the one on television known as "This Is Your Life." From far and near, the arrangements committee gathered such individuals as could be contacted, who had played an important role in the doctor's career. Among them were the surgical nurse from the Chicago Clinic where he took his internship, several of the women who served in his office, his first patient in Monroe, his first and last babies, etc. As an added tribute, the Monroe Commercial Club presented to Dr. Tharp a scroll inscribed, "A Salute to Dr. H. M. Tharp, whose 25 years of long, diligent and faithful service to the community as Physician, Surgeon and Benefactor have earned for him this recognition."

Such things may occur in other communities, but an event of this kind cannot be passed by in silence for several reasons. It occasions deep thoughts about our medical practice. When a town, whose health, lives, births and deaths have revolved around one man for 25 years, feels strongly enough about him to pay him such a glowing tribute, he must feel that he has handled his obligations as their doctor in a successful, acceptable and honorable manner. It recalls those words of Osler, "If you take care of your community your community will take care of you."

The people we call "patients" are still sensitive to humanities, over and above the cry to socialize. They are more interested in their individual care when ill, than in any impersonal organization directing medical affairs in any way. Good medical care, above everything except, possibly adequate medical knowledge, comes from the very heart of the doctor. Not only is his will to serve important, but even more so is the spirit with which he serves. Dr. Tharp's honor clearly indicates these facts. And when they are purveyed to all for over 25 years, what is more natural than

for the community to recognize this service and express their appreciation concretely?

This proves another vital point to us as doctors. If we approach our work with an attitude of humility and responsibility, and realize we are in the service of the public, first and foremost, we will find not only public appreciation and acceptance, but probably the greatest compensation in life—peace of mind and soul.

---

### GENERAL PRACTITIONER AWARD

Dr. Pierre Sartor, of Titonka, was named Iowa's General Practitioner of the year by the House of Delegates at the 1953 meeting of the Iowa State Medical Society. After 57 years in his profession,



DR. PIERRE SARTOR

Dr. Sartor says he still has "a pretty busy practice," part in Titonka and part in the surrounding rural area and at Bancroft, eight miles away.

Dr. Sartor came to this country from Luxembourg when he was 22 and received his medical education at Bennett College, now a part of Loyola University, in Chicago. On securing his M.D., he took the suggestion of two of his friends and came to Bancroft, intending to set up practice there immediately. But he came at the wrong time of year. The examination had just been given, and when he found that he would need to wait twelve months for a license to practice in Iowa, he returned to Chicago. Five years later,

in 1901, he came again, bringing his bride with him, and has stayed ever since.

The experiences that Dr. Sartor recalls most vividly—and the ones in which he takes greatest pride—occurred during the nationwide influenza epidemic of 1918 and 1919. More than a thousand of his patients were stricken with the disease at one time or another during the winter, and when he had become thoroughly exhausted, one of his friends drove for him so that he could get a few minutes' rest between visits. Though influenza was more frequently fatal then than it ever has been since, Dr. Sartor lost only five patients.

One of Dr. Sartor's five children is now practicing medicine in Iowa, and a second is a graduate nurse and wife of a surgeon. A grandson is enrolled at the SUI medical school.

---

### Clinical Pathologic Conference

(Continued from page 230)

whom we see during childhood who have difficulty and go from the acute into the subacute and chronic forms of the disease are those who are in poor nutritional states. I think it's reasonable to assume that this girl's nutritional reserves may well have been very low. There were no data or values given in the protocol as far as her plasma proteins were concerned, and, of course, with the acute disease process it would be next to impossible to interpret them, but I think it may be of real import in terms of following patients and some lead in prognosis as to their general condition. It also would be interesting to know this patient's height.

*Dr. William B. Bean, Internal Medicine:* It was noted that she was obese, although that doesn't necessarily mean she was well nourished.

*Dr. Jackson:* I agree and feel that obesity would suggest her being in a poor nutritional state, rather than in a good one.

*Dr. Carter:* She was 5 feet high and weighed approximately 240 pounds.

*Dr. Jackson:* Such measurements would also indicate that she may have had some interference with her growth pattern. Apparently her early pregnancies may even have been in her growing period; she had three pregnancies before the age of 18.

---

### 1953 GOLF TOURNAMENT

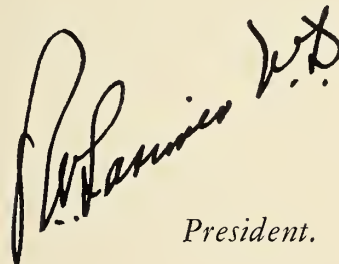
Despite cold, wind and clouds, 41 players entered the State Medical Society's golf tournament on Sunday, April 26, the day before the scientific sessions of the annual meeting began. Dr. William Catalona, of Muscatine, reported the lowest gross score, 83. Dr. J. C. Donahue, Sr., of Centerville, was second, with 86, and Dr. L. W. Kimberly, of Davenport, third, with 87.



## *President's Page*

During the last month, activities of the State Society have included preparations for the presentation of the Elaboration of Medical Ethics to the American Medical Association meeting, the beginning of the year's work for the new officers and trustees, and the organization of the various committees for work during the coming year. This is extra work for many men, but many other members will be contributing to the activities of the State Society as they become preceptors. When the Senior students return to the State University next fall, it is to be hoped that they will feel they have had a worthwhile experience and that many of them will look forward to the time when they themselves will engage in the type of general practice in which they participated.

We ask that you seriously review and consider the letter which you have received in regard to the Educational Fund. Contributions from you will be concrete evidence of your interest in young medical students. Such a responsibility was placed upon older physicians by Hippocrates himself. It has occurred to some of us that, when a physician dies, his friends and patients can create a living memorial to him and assure his being remembered by making a contribution in his name to the Educational Fund. Need for the Educational Fund is great, and for the next several years, until the capital investment begins to rotate and to become self-sustaining, all of us must be willing to contribute.

A handwritten signature in dark ink, appearing to read "J. H. Harrison M.D.", is written in a cursive style. The signature is positioned above the printed word "President.".

*President.*

## *General Manager's Page*

### PROGRAM PLANNING

One of the subjects which will be discussed at the May meeting of the Council is planning county medical meetings for the fall and winter months. Certainly, it is time to discuss not only the type of scientific programs which will attract the membership, but also the programs which will keep the members informed on the economics of the State Society.

The following committees are ready to provide you with an evening of worthwhile discussion:

**MENTAL HEALTH COMMITTEE**—One of the most popular subjects discussed in both professional and lay groups. The screening of mental cases in the local doctor's office is an important problem to be discussed.

**COMMITTEE ON PUBLIC RELATIONS**—This committee has held three county meetings with wonderful success. Do not miss this program.

**RURAL HEALTH COMMITTEE**—This committee is vitally important to all rural communities. This committee might well include important farm groups. It is really a great Public Relations possibility.

The officers and office personnel's explanation of "How Your Society Functions" has been exceptionally well-received. It is a program that every county society should include in its year's planning. This office will be glad to assist you in arranging programs.

### KNOW YOUR STATE MEDICAL SOCIETY

*R. D. Bernard, M.D.*

*General Manager*



---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*President-Elect*—MRS. LESTER R. HEGG, Rock Valley

*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines

*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

## REPORT OF ANNUAL MEETING

The twenty-fourth Annual Meeting of the Woman's Auxiliary to the Iowa State Medical Society opened with an executive board meeting at the Savery Hotel in Des Moines on April 27. Mrs. Lonnie A. Coffin, President, presided at all meetings. Reports of state officers, committee chairmen and county presidents were distributed in printed form as has been the custom for the past few years. The proposed budget for 1953-54 is \$2,400.

Because of lack of time and in deference to the obligations of the doctors who were speakers at the morning meeting, Mrs. William A. Seidler, Jamaica did not conclude the reading of the new proposed constitution and by-laws.

Ralph E. Smiley, M.D., Mason City, presented an enlightening address on "Medical Progress" with particular reference to economics in medicine. He has made a detailed study of this subject and has come to the conclusion that it might be possible "to find an old-fashioned doctor, if one could find an old-fashioned family." He pointed out the radical changes which antibiotics have made in treatment, how periods of hospitalization have changed, and how hospitalization has increased. But in proportion to money spent on luxuries in the United States, money spent on medical care is negligible. While voluntary insurance has been a help from the medical standpoint, installment buying continues to be a curse, for when emergencies arise, people of average or below-average income are overwhelmed. Inflation has, of course, decreased the value of the medical dollar, too.

Dr. Smiley's paper is such a worthwhile one that studying it would make a splendid program for any county Auxiliary. Extra copies are available from the State Office, and program chairmen would do well to secure copies early before they are all dispersed.

George H. Scanlon, M.D., Iowa City, gave an explanatory talk about the Iowa State Medical Society's Educational Fund which has been established to help medical students finish training

and internship without hardship. Funds are available to Iowa students no matter where they may be going to school if they will agree to go into general practice for three years after finishing internship, preferably locating in Iowa. The obvious reason for this stipulation is to encourage general practice, since the medical profession has long since had an overflow of specialists. Dr. Scanlon stressed that about 90 per cent of human ills can be cured by general practitioners anyway. Good grades and good health might allow certain sophomores to secure a loan, but juniors and seniors are preferred. In the event of no collateral, the student will be required to cover his loan with a term insurance policy which the educational fund will secure on him. The student will begin re-paying his loan at the beginning of his third year of practice. Loans average about \$2,000.00.

The Auxiliary will be requested to assist with the promotion of this project. It would be well for members to know details in order to advise persons who might leave bequests. It is a good business investment for doctors themselves in that these loans draw 4 per cent interest payable ten years after the loan is made. Doctors who can are urged to lend at least \$500.00, since \$150,000.00 will be needed to make the fund function properly. The Johnson County Medical Society has lent \$11,000.00. This project is a splendid one and peculiarly our own. Let us support it! For further information, write George H. Scanlon, M.D., Dey Building, Iowa City, Iowa.

During luncheon in the Terrace Room, Mrs. Herbert C. Merillat provided beautiful organ music. Mrs. J. M. McDonnough, Fourth Vice President of the Woman's Auxiliary to the AMA, the first speaker, stressed the need for doctors' wives being active in health work in their local communities in order that projects on the county, state, and national levels may be strong. In her brief speech the two most memorable statements were: "Service is the rate you pay for the place you occupy" and "Greatness comes from giving, not getting."

The panel discussion, "Why Nurse Recruitment and Loan Fund?" was moderated by Mrs. Dean H. King, who pointed out the need for more

nurses. Even though there are 335,000 active nurses at present in the United States, the most there have ever been, more are needed.

C. H. Clark, M.D., Cedar Rapids, stressed the facts that nursing assignments are heavier, in spite of the fact that "Good nurses are always employed" and that the cost and strenuous curriculum frighten many girls from taking up nursing. The professional careers of nurses are too brief in proportion to the time and money spent on preparation. Since hospitals are in a highly competitive field, and many graduates of private hospitals move to government hospitals for the higher pay, perhaps the government might reimburse the private hospitals for the education of nurses.

Nursing standards should be kept at a high level, but practical nurses will help to solve the increasing problem of lack of nurses. There are twenty girls in training at the Marshalltown School and five at the University. Marshalltown has had sixty graduates. Perhaps by adding one-half year to the present year of training, a new field of nurse specialists might be created. This group would be qualified to carry greater responsibility.

Mrs. C. C. Inman, Chairman of the Woman's Committee of the Iowa Farm Bureau, spoke briefly of the health interests promoted by her organization. Although her organization has taken no active stand in regard to nursing, she reported that there is a general feeling among the members that entrance requirements are too high and that more practical nurses are needed. It should be remembered that County Health nurses, for whom so many counties clamored madly, are human beings and need social as well as professional courtesies. Fundamentally, the problem is that of enlarging the total trained reservoir of health specialists.

Among the guests, it was the privilege of the Auxiliary to have Alice Hobart of Mercy Hospital in Des Moines. She had just received her cap that morning and expressed her deep gratitude to the Auxiliary for their loan which was making a career possible for her. Also present were Marilyn Lee and Marilyn Dvorkin of Central High School in Sioux City. The first is president and the second is vice president of the Future Nurses Club in their school. These girls described the process of organization and the function of their club.

Mrs. Lawrence E. Pierson and Mrs. Carroll A. Brown of Sioux City guided the thinking in regard to "Developing Future Nurses' Clubs." The Auxiliary's part in this activity should consist in indoctrinating doctors' wives toward this end, maintaining contact with the county medical societies, schools, and hospitals and promoting publicity

and information programs in clubs other than medical groups in order to stimulate interest among parents.

At four o'clock a lovely tea was held for the doctors' wives at the home of Dr. Grace O. Doane, 4140 Grand Avenue.

The meeting Tuesday morning was formally opened by the president, Mrs. Coffin, and the invocation was given by Rev. Edward P. Ingersoll. Mrs. Noble W. Irving, president of the Polk County Auxiliary extended the welcome, and a response was given by Mrs. Lester R. Hegg, First Vice President of the State Auxiliary. A fine panel discussion followed. It was entitled "Around the Clock in '53" and was coordinated by Mrs. Lester R. Hegg. The papers which were read will appear in succeeding issues of "The Woman's Auxiliary News." Subjects and speakers were: "Health Subjects are Popular," by Mrs. Howard W. Smith, Woodward; "Helping the Handicapped," by Mrs. Herbert C. Merrillat, Des Moines; "Hospital Auxiliaries and Their Importance," by Mrs. Martin A. Blackstone, Sioux City; "What Makes a County Auxiliary Tick," by Mrs. Frederic G. Loomis, Waterloo; and "Coffee Time in Appanoose," by Mrs. Elmer A. Larsen, Centerville.

Special guests at the luncheon were Dr. Louis Bauer, President of the AMA; President-Elect Dr. Robert N. Larimer, and President Dr. Ben Whitaker of the Iowa State Medical Society; Dr. Otis Wolfe and Dr. Lonnie A. Coffin. Dr. Bauer explained the organization of the AMA and urged doctors' wives to explain it to the public, since a mistaken idea has grown that the AMA is a hierarchy. Because poor attendance at County Medical Society meetings seems to be a common trend all over the United States at present, Dr. Bauer urged the doctors' wives to stimulate their husbands to attend.

Dr. John M. Dorsey, a psychiatrist of Wayne University, Detroit, Michigan, was the principal speaker. His topic was "The Importance of Family Living." He stressed the fact that there is no institution superior to the home for development of individuals. The home should be the primary health center. In line with this thinking, Dr. Dorsey emphasized the following points: 1. Husbands and wives need to maintain individuality in spite of their integration. 2. The greatest good of humanity lies in self-possession. 3. Health is something we must work for in order to keep it. 4. Husbands and wives should not only be high-principled, but also lowly-wise. "We find fault easily, but we find perfection only on second thought." 5. Cherish the Constitution of the United States since it advocates greater respect for the dignity of the individual. 6. There must be



love. Nothing which is not done good-naturedly is done well.

After Dr. Dorsey's talk, there was a style show through the courtesy of Norman Cassidy, Inc. of Des Moines. Sports clothes and summer fashions were modeled by wives of Des Moines doctors. The narration was cleverly done by Mrs. Julian Bruner, and the models were Mesdames Byron Merkel, Cecil C. Jones, J. B. Synhorst, Victor Young, Ralph Riegleman, Victor Johnson, Joseph Priestley, Douglas Gibson, Harold Margulies, and Homer Wichern.

There was a surprise interruption in the style show when Hal Bloch, well known to followers of television, appeared and greeted the assembly with a joke or two. He was attending the Grid-iron Club dinner in the adjoining banquet room.

After the style show, Mrs. Wilson Wolfe, Ottumwa, explained a few details in regard to the National Medical Education Fund. Last year the fund divided three million dollars among the seventy-nine recognized medical schools. Actually ten million dollars per year is needed. Wapello County Auxiliary has given \$100 to start the Iowa fund rolling. There will be \$115 to report to National. It is hoped that there will be 100 per cent donation from all Auxiliary members in the state.

Past presidents of the State Auxiliary who attended the Annual Meeting were: Mesdames W. A. Seidler, J. A. Downing, C. A. Boice, E. T. Warren, W. R. Hornaday, F. W. Mulsow, J. C. Decker, S. S. Westly, M. H. Brinker, Fred Moore, A. G. Felter, R. M. Minkel, C. H. Mitchell, and H. W. Smith.

R. D. Bernard, M.D., General Manager of the Iowa State Medical Society, addressed the Wednesday morning session. He particularly encouraged support of the Registered Practical Nurse School, when organized.

By vote, \$1,000.00 was transferred from the General Fund to the Nurses' Loan Fund. A motion was passed requesting a decision from the Nurse Recruitment and Loan Fund Committee in regard to making loans to registered practical nurse students. Action will be taken on this issue at the next board meeting.

Mrs. I. K. Sayre, St. Charles, presented a lovely memorial to the following members deceased in the past year: Mrs. Martha Sibley, Mrs. William E. Cody, Mrs. W. J. Corner, Mrs. Harry E. Nelson, Mrs. E. A. Nash, Mrs. John P. Hancock, and Mrs. Eileen Sampson.

Officers for the coming year were elected. Mrs. Howard W. Smith installed them. Mrs. Edward B. Hoeven, Ottumwa, president; Mrs. Lester R. Hegg, Rock Valley, president-elect; Mrs. Charles H. Flynn, Clarinda, first vice president; Mrs. Dean

H. King, Spencer, second vice president; Mrs. Robert P. Mason, Des Moines, secretary; Mrs. Howard H. Smead, Des Moines, treasurer.

Councilors: District 1, Mrs. Paul Nerrling, Cresco; 2, Mrs. Edward B. Grossman, Orange City; 3, Mrs. Joe M. Krigsten, Sioux City; 4, Mrs. Carl J. Lohmann, Burlington; 5, Mrs. Harold J. Peggs, Creston; and 6, Mrs. Emil Petersen, Atlantic.

Special thanks are due the Polk County Auxiliary, the committees and individuals who assisted in providing the gracious hospitality to the doctors' wives of the state.

MRS. KEITH M. CHAPLER  
*Publications Chairman*

Mrs. Clarence Darrow and Mrs. Edgar Connelly were hostesses to the members of the Dubuque Medical Auxiliary on April 14. A report was made on collections through the Easter Seal canisters that had been placed in the stores, and Mrs. Lincoln Steffens, Mrs. J. W. Lawrence and Mrs. Joseph Straub were appointed delegates to the annual meeting in Des Moines.

After a potluck supper at the home of Mrs. H. J. Heusinkveld, on Tuesday, April 21, the members of the Clinton County Auxiliary elected the following officers for 1953-54: Mrs. Bernard B. Dwyer, president; Mrs. Vernon W. Petersen, vice-president; Mrs. Milton E. Barrent, secretary; and Mrs. H. K. Knudsen, treasurer. Afterwards, they watched a film on a Carribean cruise.

### THE NEW PRESIDENT ACCEPTS

Probably no one ever accepts a new and important office without a great deal of inner questioning of one's own qualifications, one's ability to subordinate self and personal opinions and think of the organization as a whole. I am no exception.

I am honored by your expression of faith in my ability to represent the Woman's Auxiliary to the Iowa State Medical Society. I shall try to merit that faith.

I believe this to be one of the finest of all organized groups. Our potential for good—our influence—is beyond measuring. Our highest ambition, our goal, in the words of Rock Sylvester, M.D., should be "a professional career above reproach for our husbands."

Nothing is so important in shaping that career as are the doctor's wife and his home. Demands which we make upon him are reflected in his relations with his patients and with his colleagues.

Let us always be mindful that we married doctors. Many of us forget too soon the pre-marriage dreams, the idealism, the romance of medicine. And our lives with our doctors become as pro-

saic and humdrum as though we were married to clerks.

Actually our lives are filled with high drama. We sit in on the life and death struggles of our communities. We know when a baby is going to be born; we know when death is imminent; we know of the young mother who came too late with the symptoms which proved to be inoperable cancer; we sense the despairing frustration in the mind of the doctor, and our thoughts often are with that young mother as she fights her losing battle.

We are few in number—something over 60,000 in the whole U. S. Many doctors' wives do not appreciate the distinction which is theirs, the unique privilege of being a part of the greatest of all humanitarian professions.

The welfare of medicine is bound up with the welfare of mankind; it will progress only as it progresses in its consideration for humanity. Thus self interest alone—if we can command no higher motive—demands intelligent cooperation as a group by doctors' wives.

The Woman's Auxiliary is the only group which really is concerned with the welfare of the medical profession. The informed auxiliary member is the best and sometimes the only interpreter—or perhaps ambassador is the better word—for the profession, while the uninformed doctor's wife is like a sterile cork floating aimlessly on the current of affairs, leaving no impression.

Public Relations actually is the art of telling your own story in such a nice way that you "sell" your listeners. Doctors' wives could be public relations experts, and many are. For they have developed intuition, and a sixth sense to a high degree, knowing when to speak and when to remain silent. However, no one can practice good public relations unless she is adequately informed. And unless you are that rare person who seeks information by reading Capitol Clinic, Challenge to Socialism, Spot Light, etc. you must attend your auxiliary meetings where current projects are discussed.

Public Relations is being stressed by the AMA at long last. Doctors recognize that this long neglected phase of the profession is all important if medicine is successfully to combat the hostile forces which are arrayed against it.

Speaking last week in Iowa City, George Gallup made a challenging statement: "There is a threat to America's future so long as our citizenry prefers to be entertained rather than informed." He also said that the average person spends only four minutes daily on the important news of his country and the world, but he spends ten times that much on sports, local gossip and self entertainment.

I would urge you to put your auxiliary meetings at the top of your agenda of activities. One to two hours a month is little enough to give to an organization which is so uniquely your own.

There is much to be done. Here in Iowa our

membership has slipped during the past year to approximately one fourth of those who are eligible. So a personal campaign by every one of us to enroll new members would seem to be the solution.

The AMA and the state society have asked the auxiliary to sponsor important programs. Shall we fail them?

When the national record of accomplishment is written, when the achievements of other states are proudly enumerated by enthusiastic auxiliary members, what shall be the record of Iowa?

It depends upon you, each individual member. For the state and national organizations would be nothing without the efficient county units and their loyal support. In this age of organization a small, loyal group welded together by a common and basic interest is more valuable than thousands of mere well wishers.

Nothing should be more important to a doctor's wife than her membership in the auxiliary—if she is interested in her husband's profession. The word *auxiliary*, defined, means one who aids or assists. What kind of woman is she who is not interested in a profession which "is so involved in mankind?" (John Donne's words.) There is one other thought which might be considered with profit: almost any woman in your circle gladly would exchange her position in life for yours.

The basic tenet of the auxiliary was and is friendly relations among members. But the scope of our activities has broadened; they are many and far-reaching. The medical auxiliary holds an enviable position, nationally, and Iowa, being centrally located, must build strong and true if it is to claim its share of national prestige.

To repeat, there is much to do. Iowa is being challenged by the good work of near-by states. I want to discuss every problem with you. Write to me—ask questions. If I cannot answer them, I will get the answers for you.

MRS. EDWARD B. HOEVEN

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

### FAIR AND COOLER

June 4 .....	Light Summer Meals
June 11 .....	Exercise in Summer
June 18 .....	Health in Swimming
June 25 .....	Water Safety

WSUI—Tuesday at 11:45 a.m.

### EVERYDAY HEALTH PROBLEMS

June 2 .....	Allergies
--------------	-----------

### HI-FORUM

June 9 .....	Youth at the Wheel
June 16 .....	How to Be Popular
June 23 .....	Looking Your Best
June 30 .....	Extra-curricular Activities

Television broadcasts will be resumed in the fall.



---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## DISTRICT LIAISON REPRESENTATIVES

Because of its growth, it has been felt that our Academy of General Practice needed a liaison or connecting link between the administrators of the affairs of the organization and its members. A bulletin can always be sent out on special occasions, but such a bulletin is only a one-way medium and may give rise to many questions among our members. Therefore, it was finally decided to break up the state into districts and appoint a man in each such district to answer questions and generally serve as a sort of officer of the Academy in his area. The Iowa State Medical Society has already divided the state into Councillor districts, and we have adopted identical districts for our purpose.

Our Academy is growing very satisfactorily. On April 25 we had 315 members, plus about 20 applications in process. So it will not be very long, we hope, until our numbers will make it both possible and necessary for us to establish closer relationships within our membership. These new representatives will bring members closer to their officers. They will be glad to hear suggestions for the improvement of your Academy and to present them to the Board of Directors. They will be glad to meet with County groups and tell those groups what the officers are trying to do. They will try to reach all General Practitioners and to ask all non-members to send in their applications for membership. They will soon have information concerning postgraduate study programs, for these are being prepared by the Commission on Education. Thus, the district representatives will be the connecting link in all matters to pass both ways between officers and members.

Make note of the doctor appointed in your district and take your problems, questions, and suggestions to him. If he should find it necessary to ask you for help on some project, please help him. Let everyone put his shoulder to the wheel and make the Iowa Academy of General Practice roll.

As stated above, the district numbers stated below correspond to the numbers of the Councillor Districts of the Iowa State Medical Society.

### *District No. 1*

Arthur F. Fritchen, 101½ East Water Street, Decorah.

### *District No. 2*

Cecil V. Hamilton, 180 East 5th Street, Garner.

### *District No. 3*

Thomas L. Ward, Arnolds Park.

### *District No. 4*

Frank D. McCarthy, 720 Badgerow Building, Sioux City.

### *District No. 5*

Ralph L. Wicks, 202 Citizens Bank Building, Boone.

### *District No. 6*

Loran F. Parker, 708 Washington Street, Iowa Falls.

### *District No. 7*

Dean C. Snyder, Minor Building, DeWitt.

### *District No. 8*

James S. Jackson, 141 North Jefferson, Mount Pleasant.

### *District No. 9*

Alvin E. Evers, 410 Franklin, Pella.

### *District No. 10*

John F. Veltman, 121 West Court Avenue, Winterset.

### *District No. 11*

Roscoe M. Needles, 17 West 5th Street, Atlantic.

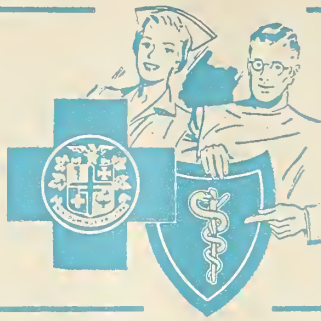
These men have all signified their willingness to be a liaison between you and your administrative officers.

## IOWA ACADEMY 1953 MEDICAL STUDENT AWARD

The Iowa Academy has announced that it is presenting a \$200 award to the medical student completing his preceptorship this summer who writes the best discussion on the subject: "Preceptorship—A Critical Assessment of Its Value in Medical Training." It is hoped that this will encourage students to crystallize in their own minds what the preceptorship means to them, and by means of their papers, to let us know. In reverse, it will be a means whereby the Academy of General Practice can be of some substantial help to a medical stu-

*(Continued on page 246)*

BLUE CROSS



BLUE SHIELD

# BLUE SHIELD

## IOWA BLUE SHIELD IN 1952 CLAIMS PAID BY TYPE OF SERVICE

	NUMBER OF SERVICES	PERCENT OF TOTAL	TOTAL PAID	PERCENT OF TOTAL
HOSPITALIZED MEDICAL CARE	13,584	15.8	\$375,917.59	13.6
ACCIDENT CARE - NON-FRACTURE	9,655	11.2	98,155.45	3.6
- FRACTURES	3,638	4.2	153,134.38	5.6
OBSTETRICAL - DELIVERY	7,576	8.8	430,099.00	15.7
CAESAREAN	327	.4	32,475.00	1.2
APPENDECTOMY	2,417	2.8	239,078.00	8.7
TONSILLECTOMY	4,400	5.1	113,365.50	4.1
HERNIOTOMY	1,017	1.2	109,250.00	4.0
CHOLECYSTECTOMY	745	.9	103,672.50	3.8
HEMORRHOIDECTOMY	1,080	1.3	49,189.26	1.8
HYSTERECTOMY	1,035	1.2	134,104.50	4.9
SALPINGECTOMY	.129	.1	12,575.00	.5
OOPHORECTOMY	154	.2	15,075.50	.5
DILATION and CURETTAGE	1,324	1.5	34,101.50	1.2
LIGATION VARICOSE VEINS	469	.5	30,658.50	1.1
THYROIDECTOMY	183	.2	26,750.00	1.0
CYSTOSCOPY	1,213	1.4	33,286.50	1.2
PROSTATECTOMY	154	.2	22,910.00	.8
BENIGN BREAST TUMOR	563	.7	21,332.00	.8
OTHER BENIGN TUMORS	2,112	2.5	29,630.75	1.1
ANESTHESIA	12,817	14.9	129,049.25	4.7
X-RAY - DIAGNOSTIC	8,543	9.9	78,557.04	2.9
X-RAY - RADIUM THERAPY	175	.2	11,179.00	.4
ALL OTHER SURGERY	12,766	14.8	464,624.49	16.8
<b>TOTAL</b>	<b>86,077</b>	<b>100.00</b>	<b>\$2,748,170.21</b>	<b>100.0</b>

### RECORD PAYMENTS BY BLUE CROSS- BLUE SHIELD IN 1952

Blue Cross-Blue Shield paid more benefits to their members during 1952, than in any preceding year since the corporations were organized. Blue Cross allowed \$7,828,392.35 which represented 102,-919 hospital admissions. Blue Shield paid \$2,748,-

170.20 to physicians for the care of 86,077 members.

### ENROLLMENT

Iowa Blue Cross members as of March 31, 1953—654,032.

Iowa Blue Shield members as of March 31, 1953—411,009.



# THE JOURNAL BOOK SHELF

## BOOKS RECEIVED

THE CIBA COLLECTION OF MEDICAL ILLUSTRATIONS, by Frank H. Netter, M.D., Vol. I "Nervous System (Commissioned and published by Ciba Pharmaceutical Products, Inc., Summit, New Jersey, 1953. \$6.00).

CLINICAL DIAGNOSIS BY LABORATORY METHODS, by James Campbell Todd, M.D., Arthur Hawley Sanford, M.D., and Benjamin B. Wells, Twelfth Edition. (W. B. Saunders, Philadelphia, 1953. \$4.50).

DIAGNOSTIC TEXTS IN NEUROLOGY, by Robert Wartenberg, M.D. (The Year Book Publishers, New York, 1952. \$4.50).

HEADACHES, THEIR NATURE AND TREATMENT, by Stewart Wolf, M.D., and Harold G. Wolff, M.D. (Little Brown & Co., Boston, 1953. \$2.50).

PHYSICAL EXAMINATION OF THE SURGICAL PATIENT, by J. Engelbert Dunphy, M.D., F.A.C.S., and Thomas W. Botsford, M.D., F.A.C.S. (W. B. Saunders, Philadelphia, 1953. \$7.50).

PHYSIOLOGY OF EXERCISE, by Lawrence E. Morehouse, Ph.D., and Augustus T. Miller, Jr., Ph.D., M.D., Second Edition (The C. V. Mosby Co., St. Louis, 1953. \$4.75).

THE PSYCHOLOGY AND PSYCHOTHERAPY OF OTTO RANK, by Fay B. Karpf, Ph.D. (Philosophical Library, New York, 1953. \$3.00).

SURGICAL EXPOSURES OF THE EXTREMITIES, by Sam W. Banks, M.D., and Harold Laufman, M.D. (W. B. Saunders, Philadelphia, 1953. \$15.00).

## BOOK REVIEWS

SEXUAL HARMONY IN MARRIAGE, by Oliver M. Butterfield, Ph.D., (Emerson Books, Inc., New York, 1952, \$1.50).

This monograph has been prepared as a guide to those who desire sound advice upon the subject. Practical information is presented in a manner which may be understood by the layman. Those physicians who are called upon for marriage counseling will find this book a valuable adjunct.—Everett M. George, M.D.

GIFFORD'S TEXTBOOK OF OPHTHALMOLOGY, ed. by Francis Heed Adler, M.D., 5th. edition, (W. B. Saunders, Philadelphia, 1953. \$7.50).

According to the preface by the author this book is being used in the teaching of medical students and for information of the general practitioner. This reviewer agrees that that is the main use for this book because the subject matter is not covered in such a way as to be of much value to the ophthalmologist.

However, it is in the nature of such a book to emphasize general physical conditions as related to ocular diseases to a greater extent than is done in most textbooks published for use by the ophthalmologist, and for this reason even the specialist will find some valuable information in this book. In this respect the chapter on "Fundus Findings in Hypertensive Vascular Disease," is excellent in its clear and concise co-ordination of fundus and physical findings.

This latest edition omits detailed description of surgical procedures and gives only the indications for surgery. This appears to be the right approach to the subject, as it is impossible to describe surgical procedure adequately in a volume of this size, besides being of little value to the general practitioner.

In summary this is an excellent volume for the library of the general practitioner, but of only very limited value for the ophthalmologist.—Henry H. Gurau, M.D.

ADVANCES IN INTERNAL MEDICINE, by William Dock, M.D., Long Island College of Medicine, Brooklyn; I. Snapper, M.D., The Mount Sinai Hospital, New York, N. Y., (The Year Book Publishers, Inc., Chicago, price \$10.50).

This is a collection of monographs on Cardiac Catheterization, Portal Hypertension, Gout, Anemia of Infection, Influenza, ACTH and Cortisone, Ganglionic and Adrenergic Blocking Agents, and Maternal Diseases which Affect the Fetus. Most of these are quite easily read. All are extremely complete and bring the reader up to date on all the recent experimental and clinical work pertaining to the subject at hand.

I think every internist would profit greatly by reading this book.—Charles H. Gutenkauf, M.D.

OFFICE PSYCHIATRY, by Louis G. Moench, M.D., Assistant Clinical Professor of Medicine and of Psychiatry, University of Utah School of Medicine. (The Year Book Publishers, Inc., Chicago, \$6.00.)

*Office Psychiatry* is written, as stated in the preface, for the general practitioner. It is intended to increase the understanding of the patient as a person, thereby extending the range of the physician's usefulness to the patient. The author begins his book with prenatal influences, then discusses the development and growth of personality and carries the individual through the stages of adolescence to adulthood. The psychosomatic illnesses, the neuroses, and the psychoses, both functional and organic, are discussed in a brief manner, but the main points of interest are covered. His outline for psychiatric examination, including the interview with the patient, is very good. The latter part of the book is devoted to discussion of treatment. Of necessity in a book of this type, the author's discussions are very brief and many underlying details of the illness are omitted, but he does cover the subject in an excellent manner and makes it easily readable for the general practitioner. His illustrations in caricature are stimulating. His examples as quoted throughout the book are those normally expected. He does not over-emphasize; neither does he under-emphasize the various schools of psychiatric thought. He attempts to give one a workable outline for recognized psychiatric problems in the office, and his warnings concerned with such examinations are very timely. The main criticism of this book, and it is so frequently directed at other psychiatric literature, is that five-sixths of the book is devoted to the various types of illnesses and one-sixth devoted to treatment, which of course is the all important subject to the general practitioner. I would recommend *Office Psychiatry* highly to all general practitioners and medical students. His references are excellent.—Herbert C. Merillat, M.D.

The price quoted for H. F. Moseley's Textbook on Surgery in the review published in the May Journal was incorrect. The book costs \$15.00.

# STATE DEPARTMENT OF HEALTH

*Walter Diering*

## COUNTY-WIDE X-RAY PROGRAMS Iowa—Calendar Year 1952

SURVEY NUMBER	COUNTY	ELIGIBLE POPULATION OVER AGE 5	FILMS 70mm	PERCENT ELIGIBLES MINIFILMED	REFERRED FOR 14 x 17	TBC SUSPECTS	NO. TBC
32	Taylor	11,297	6280	55.5	40	10	22
33	Adams	7,831	4404	56.2	32	6	26
34	Marion	23,428	11458	48.9	66	10	44
35	Marshall	31,995	21954	68.6	153	34	82
36	Palo Alto	13,974	9303	66.5	84	10	25
37	Wapello	42,349	33066	78.0	232	59	173
38	Madison	11,844	8116	68.5	103	26	56
39	Howard	11,683	8334	71.3	99	18	46
40	Worth	9,882	6327	64.0	91	20	24
41	Dickinson	11,314	7194	63.5	128	24	48
42	Sac	15,615	9461	60.5	76	19	25
43	Carroll	20,266	12626	62.3	103	19	36
44	Harrison	17,372	9808	56.4	102	27	43
45	Humboldt	11,684	8759	74.9	73	10	32
46	Fayette	25,265	18049	71.4	122	15	56
48	Monona	14,544	9573	65.8	105	9	52
49	Audubon	10,293	6355	61.7	74	12	31
		ELIGIBLE POPULATION 7th GRADE & ABOVE					
* 47	Webster	32,780	22895	69.8	173	38	84
* 50	Cherokee	12,608	8479	67.2	76	18	33
* 51	Jasper	23,966	17174	71.6	212	55	188
* 52	Poweshiek	14,640	7395	50.5	74	18	31
TOTALS		374,630	247010	65.9	2209	457	1157

1 person in every 112 referred for confirmatory film.

1 Tbc suspect in every 540 minifilmed

1 Non-Tbc in every 213 minifilmed

### THE COUNTY-WIDE X-RAY SURVEY DOES REACH THE PEOPLE

From the individual county reports as for Webster County the foregoing summary for all county-wide x-ray programs for Iowa for 1952 has been made.

To date in 1953, 9 counties have already had the county-wide program. Work in Boone, the 10th county, was completed May 5. From there the Units will move to Wright, Hamilton and Butler counties in the order named.

Under the 1952 program of tuberculosis control of the Iowa State Department of Health and the Iowa Tuberculosis and Health Association, Webster County was the 47th Iowa county to have the county wide chest x-ray program. It was the first county in our new program wherein we used the classification "seventh grade or older." The following statistical breakdown shows that good percentages of the county's population took advantage



COUNTY-WIDE X-RAY SURVEY      Webster County, Sept., 1952

AGE GROUP	FORT DODGE			RURAL LESS THAN 2,500 POPULATION			COUNTY		
	POP.	X-RAYED	PER CENT	POP.	X-RAYED	PER CENT	POP.	X-RAYED	PER CENT
Under 10	4618	19	--	4112	31	---	8730	50	---
10-14	1721	1230	71.5	1719	786	45.7	3440	2016	58.6
15-19	1678	1554	92.6	1407	1017	72.3	3085	2571	83.3
20-24	1968	1179	59.9	1212	462	38.1	3180	1641	51.6
25-29	1972	1590	80.6	1353	669	49.4	3325	2259	67.9
30-34	1846	1594	86.3	1262	669	53.0	3108	2263	72.8
35-39	1740	1431	82.2	1231	654	53.1	2971	2085	70.2
40-44	1573	1402	89.1	1199	622	51.8	2772	2024	73.0
45-49	1521	1195	78.6	1099	593	53.9	2620	1708	68.2
50-54	1521	1097	72.1	1010	584	57.8	2531	1681	66.4
55-59	1322	913	69.1	932	522	56.0	2254	1435	63.7
60-64	1115	789	70.1	835	385	46.1	1950	1174	60.2
65-69	988	512	51.8	655	322	49.2	1643	834	50.7
70-74	676	384	56.8	488	203	41.6	1164	597	50.4
75 -+	856	270	31.5	612	180	29.4	1468	450	30.6
TOTALS									
Age 15 & Above	18776	13910	74.1	13295	6882	51.76	32071	20792	64.8

of the service. The totals at the bottom of the page include only the age groups of 15 and above. This is done since the seventh grade level includes only a portion of the 10-14 year old group and since national tuberculosis tabulations begin with the age of 15 years.

The smaller numbers of persons x-rayed in the 20-24 year group are due to the fact that many among this age group are out of the county, in service or in college. Many in the age group of 65 and over because of physical disability could not appear at the trailers for x-rays.

Even though percentages were good in Webster county we feel we can improve them. We can continue harder than ever to try to convince people that if a youngster gets tuberculosis he usually gets it from an adult and frequently from one who is sure he is too old to have tuberculosis.

POLIOMYELITIS GAMMA GLOBULIN  
DISTRIBUTION IN IOWA

Under the arrangements set up by the office of Defense Mobilization, each state is to be allocated gamma globulin for poliomyelitis prophylaxis.

Basic allocations are to be made on the average number of reported cases of poliomyelitis for the last 5-year period. For this 5-year period, 1948-1952 inclusive, Iowa's reported cases of poliomyelitis averaged 1,567. The amount of gamma globulin supplied is at the rate of 60 cc per reported case, or about 94,560 cc. The State Departments of Health have been informed that they are to serve as distributing centers for the supply sent to their respective states. Thus, sometime after May 1, the Iowa State Department of Health will

receive about 94,000 cc of gamma globulin for poliomyelitis prophylaxis.

Further provisions are made that if these rates in any state exceed the average upon which the previously described calculations were made, limited additional supplies of gamma globulin will probably be made available.

The gamma globulin for poliomyelitis prophylaxis is packaged in 10 cc vials. The recommended dose is 0.14 cc per pound of body weight (or 7 cc for a 50 pound child and 14 cc for one of 100 pounds). Thus, with these large dosages, the 94,000 cc we calculate we will receive in Iowa will serve as prophylactic doses for only 6,756 persons if an average weight of 100 pounds per person is used in making an estimate.

Since the plan of distribution of the poliomyelitis gamma globulin had to be reached, we requested that the Iowa State Medical Society name four physicians who could meet with us to help formulate an Iowa policy of distribution. The meeting was held April 27, 1953, and the following distribution procedures were decided upon:

- I. Women in their last trimester of pregnancy exposed to a case of poliomyelitis will be among those to receive first consideration.
- At the same level of priority are family contacts (to include any family member up to the age of 30) of a case of poliomyelitis.
- For these purposes a case of poliomyelitis is one showing muscle paralysis (or weakness) and/or a positive spinal fluid test for poliomyelitis.
- Physicians requesting gamma globulin for poliomyelitis prophylaxis will be expected to state, (1) whether or not the case of poliomyelitis with which the person has had contact is paralytic or non-paralytic, (2) the number and weights of contacts for whom prophylactic material is being requested.

II. If the general incidence level of poliomyelitis in the state remains low, and if out-breaks in certain communities are threatening to reach epidemic levels, available gamma globulin may thus be distributed on a limited basis for a mass type of prophylaxis.

Distribution of gamma globulin from the State Department of Health will be through the usual channels, either from Regional Health Offices, certain already established stations, or by direct call from the physician to the State Department of Health.

#### Members of the Committee:

Walter L. Bierring, M.D., Commissioner  
 Ralph H. Heeren, M.D., Director Division of Preventable Diseases  
 Lee Forrest Hill, M.D., Des Moines  
 Robert H. McBride, M.D., Sioux City  
 J. G. Fellows, M.D., Ames  
 M. J. Foster, M.D., Cedar Rapids (absent)  
 Charles Burr, M.D., Des Moines  
 Franklin H. Topp, M.D., Iowa City

The above program of distribution of poliomyelitis gamma globulin in Iowa in 1953 was approved by the Iowa State Board of Health at a special meeting on April 28.

#### MORBIDITY REPORT FOR IOWA—APRIL, 1953

Disease	Apr. 1953	Mch. 1953	Apr. 1952	Most cases reported from these countiess
Diphtheria .....	1	1	1	Crawford
Scarlet Fever ....	224	256	116	Black Hawk, Polk, Woodbury
Typhoid Fever ..	1	1	2	Lee
Smallpox .....	0	0	0	.....
Measles .....	2362	1872	758	Boone, Johnson, Polk, Pottawattamie
Whooping Cough ..	11	9	7	Boone, Polk
Brucellosis .....	31	21	31	Dubuque (3) others scattered 2 or 1 to a Co.
Chickenpox .....	873	706	191	Black Hawk, Dubuque, Linn, Polk
Meningitis .....	4	2	—	Appanoose, Chickasaw, Guthrie, Des Moines
Mumps .....	755	202	320	Dubuque, O'Brien, Pottawattamie (all non-para)
Poliomyelitis ....	4	2*	4	Guthrie, Pottawattamie, Warren, Wash.
Rabies in Animals	25	20	21	Johnson (5), Dallas, Dub., Linn, Sac, each 2
Infectious Hepatitis	202	144	46	others 1 to a county
Tuberculosis ....	43	71	87	Mahaska, Polk, Pottawattamie, Warren
Gonorrhea .....	30	64	37	For the state
Syphilis .....	127	194	108	For the state

\* (non-para.)

#### ARMOR SAVING LIVES

Use of body armor by U. S. troops in Korea is helping reduce mortality (now under two per cent of all wounded), but is increasing the proportion of non-fatal extremity wounds (now around 70 per cent), according to Dr. Melvin A. Casberg, Assistant to the Secretary of Defense for health and medical affairs. Reporting on his recent 25,000-mile tour of overseas medical installations, Dr. Casberg forecast a higher percentage of quadruple amputees as a result of the higher percentage of extremity wounds, suffered by men who would have died except for the body protection. This, in turn, he said, would require more medical care, particularly nursing care. Dr. Casberg also noted an increase in head injuries, which he said may call for a redesigning of combat helmets.

#### Iowa Academy of General Practice

(Continued from page 241)

dent. Our financial status will not permit us to offer a scholarship or anything of greater value at this time, but we hope it will serve its purpose in helping some medical student. We have conferred with the members of the Executive Committee of the University, and they feel it will be a good idea to try it for at least this year. The response obtained will determine future policy regarding its continuation. We are asking for papers of two to three thousand words, which will require some thought on the part of the student although he needs only to draw from his own experiences and reactions. No outside reading is required. We do not want eulogies of preceptors. Those doctors who will have preceptees are asked to encourage these young men to try for this award.

All entries must be in our hands by September 15, and we will ask the winner to be our guest during the Annual Meeting on September 24 to receive his award. The entries are to be sent to the office of the Secretary of the Iowa Academy.

#### ASSOCIATE MEMBERSHIP

We regret that a large number of statements and questions which have come to our attention, reveal an apparent misunderstanding concerning associate membership in the Academy of General Practice. Quite a few men just starting into practice seem to think they are not eligible for membership. Active membership in the Academy is available to those who have been in practice three or more years. Military service is considered the same as active practice. But a doctor just beginning to practice is entitled to associate membership. The dues for an associate member are \$15.00, which includes national and state chapter dues and a subscription to the Academy's Journal "GP."

We hope this statement will correct any misunderstanding concerning eligibility of those men just beginning their medical practice. Associate membership does not entitle such a member to vote, hold office, or serve on committees. It is good for only three years, at which time the associate member must make regular application for active membership.

#### POSTGRADUATE SCHEDULE 1953-1954

Des Moines—September 24 and 25, 1953  
 (Annual meeting. Wives invited.)

Fort Dodge—November 12, 1953

Des Moines—January 21, 1954



---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Floyd

The Floyd County Medical Society conducted a county-wide clinic on April 25, at which 4H club members were given medical examinations. Chest x-rays were taken at the same time, under the auspices of the county tuberculosis association.

---

### Scott

The Scott County Medical Society, together with the Health Committee of the Davenport Chamber of Commerce, sponsored a health fair on April 14 and 15. Fourteen civic and health groups participated, and the sessions were very well attended.

Dr. Max S. Sadove, Chairman of the Division of Anesthesiology at the University of Illinois Research and Educational Hospitals, spoke before the Scott County Medical Society on Tuesday, May 5, 1953, on the topic "Reactions to Local Anesthetic Agents."

---

### Black Hawk

Dr. Marc Musser, of the University of Wisconsin School of Medicine, spoke on "Psychosomatic Problems in General Practice" before the Black Hawk County Medical Society on April 14.

---

### Polk

Surgery of the ambulatory patient was the subject of the address delivered by Dr. L. K. Ferguson, of the University of Pennsylvania Medical School, at the April 15 meeting of the Polk County Medical Society, at the Savery Hotel, in Des Moines.

---

### Dubuque

On April 14, Dr. David A. Boyd, professor of psychiatry at the Mayo Foundation, addressed the Dubuque County Medical Society on the advantages of knowing the psychological needs of medical and surgical patients. Three hundred doctors, nurses and clergymen made up his audience.

---

### Fayette

Members and guests of the Fayette County Medi-

cal Society heard Dr. George Scanlon, of Iowa City, speak on endometriosis at their April 13 meeting.

---

### Cass

The Cass County Medical Society was host to the Second Annual Southwest Iowa Clinic on May 6, at Atlantic. The program included papers on orthopedic surgery and on general surgery by representatives of the Mayo Clinic, on dermatology by Dr. Donald Wilson, of the University of Nebraska, on allergies by Dr. Paul Seeböhm, of SUI, on internal medicine by Dr. Maurice Howard, of Creighton, and on gynecology by Dr. Ralph Luikhart, of Creighton.

---

### Johnson

At its scientific meeting at the Jefferson Hotel, in Iowa City, on May 6, the Johnson County Medical Society heard Dr. Frank G. Ober, of Burlington, speak on "The Role of a Health Unit in a Community, With Relation to the Medical Profession."

---

## PERSONALS

At its annual business meeting on April 29, the Iowa Orthopedic Society elected, as its officers for the coming year **Dr. Everett M. George**, Des Moines, president; **Dr. Frank Ober**, Burlington, vice-president; and **Dr. Robert Wray**, Cedar Rapids, secretary.

---

**Dr. Kenneth Jensen**, who practiced briefly at Newton before his induction in 1951, has announced that he plans to locate in Clarinda now that he has received his discharge from the Air Force.

---

At a ceremony honoring him on the occasion of his retirement from medical practice, **Dr. J. F. Aldrich**, of Shenandoah, presented a \$1,000 check to the Hand Hospital there in memory of his wife.

---

**Dr. Walter E. Foley, Jr.**, of Davenport, and **Dr. E. J. Ahmann**, of Walcott, have been recalled to duty with the Air Force, Dr. Foley to Phoenix, Arizona, and Dr. Ahmann to Sheppard Air Force Base, in Texas. Each of the men has had twenty months of previous service.

**Dr. J. Stephen Westly**, a specialist in internal medicine at Mason City, left on April 22 for Norfolk, Virginia, where he will reenter naval service as a lieutenant (sg). He served a previous tour of duty of 19½ months.

On Wednesday, April 22, **Dr. Higdon B. Elkins**, professor of radiology at SUI, read a paper entitled "Intracapsular Injection of Radiogold in Cancer" before the annual meeting of the American Radium Society, in St. Louis.

**Dr. Morris G. Beddoes**, of Waterloo was elected president of the Iowa Society of Anesthesiologists at the annual business meeting of the group held in Des Moines on April 27.

Several Iowa physicians were on the program of the annual joint meeting of the Iowa Tuberculosis and Health Association, the Iowa Heart Association and the Iowa Trudeau Society held May 7 and 8 at the Savery Hotel, in Des Moines. **Dr. Charles W. Gray** of Ottumwa, and **Dr. Daniel F. Crowley, Jr.** and **Dr. Wallace Rindskopf**, of Des Moines, took part in a discussion of chemotherapy, surgery and clinical laboratory work in tuberculosis treatment. **Dr. Paul M. Seeborn**, assistant professor of internal medicine at the University, read a paper on "Differentiation of Bronchial and Cardiac Asthma," **Dr. Walter M. Kirkendall**, chief of medical services at the Iowa City V. A. hospital, read one on "Modern Drug Treatment of Arterial Hypertension," and **Dr. Johann L. Ehrenhaft**, associate professor of surgery at the University, read one entitled "A Review of Intrathoracic Cardiovascular Surgery. **Dr. W. B. Bean**, professor of internal medicine at SUI, **Dr. John C. Parsons**, of Des Moines, and **Dr. R. B. Widmer**, of Winfield, presided at meetings.

**Dr. Harold Schrier** is leaving Fayette on June 1 to enter into a partnership practice at Ft. Madison.

**Dr. Paul From**, recently discharged, as a captain, from the Air Force, has accepted a position at the Veterans Hospital in Des Moines. Before going into service eighteen months ago, he practiced in West Des Moines.

**Dr. C. C. Fowler**, of Lovilia, has retired after practicing there 42 years. He observed the sixtieth anniversary of his entering practice in 1951.

**Dr. Robert S. Reimers** has closed his office after

43 years as an eye, ear, nose and throat specialist at Fort Madison. He intends continuing work at the state prison, which he has served as physician and surgeon since 1919.

**Dr. C. J. Baker**, of Ft. Dodge, was elected president of the Iowa Pediatrics Society at the group's annual business meeting in Des Moines during the last week of April.

The Heed Fellowship in Ophthalmology at SUI has been awarded to **Dr. Bernard J. Mansheim**, of Fort Madison, for his research on glaucoma. It will provide him a two-month visit at each of three eye clinics of his choice.

**Wendell A. Johnson**, M.D., of Emmetsburg, has left a residency in obstetrics at the University of Colorado, which he held throughout the past year, and has been stationed at the U. S. Naval Hospital in Corona, California. Dr. Johnson is a lieutenant in the Naval Reserve.

## DEATHS

**Dr. Harold H. Moore**, 63, of Ottumwa, died at St. Joseph's Hospital there on April 20, of heart disease. A graduate of the Medical School of the University of Illinois, Dr. Moore had practiced surgery at Ottumwa since 1919. He was a fellow of the American College of Surgeons.

**Dr. John Charles Hastings**, for nearly fifty years a general practitioner at Alta Vista and Elma, died of a heart attack at his home in Orlando, Florida, on April 2. He had moved first to Waterloo and then to Florida following his retirement in 1949. He was 78.

**Dr. Louis A. Rodgers**, 89, who practiced medicine at Oskaloosa until 5 years ago, died at the Mahaska Hospital there, on April 20. A graduate in the class of 1889, Dr. Rodgers was one of the oldest living alumni of the State University of Iowa College of Medicine.

**Dr. J. A. William Johnson**, 68, a physician first at Newton and later at Marshalltown, died at Marshalltown on Sunday, April 26, following a heart attack.

**Dr. Henry M. Hills, Sr.**, a physician at Lamoni since 1911, died there on April 27. He was 81.



# ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of May 10, 1953

Ackerman, J. H., Clarksville  
(Tallahassee, Fla.) ... Senior, Asst. Surg., U.S.P.H.S.  
Ahmann, E. J., Walcott  
(Sheppard AFB, Texas) ..... Capt., U.S.A.F.  
Arnold, K. E., Sioux City  
(Port Hueneme, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Ashby, J. D., Davenport  
(Battle Creek, Mich.) ..... Major, U.S.A.  
Bartholomew, R. D., Lake City  
(Walnut Creek, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Benton, J. S., Des Moines ..... 1st Lt., A.U.S.  
Bogle, W. C., Marion  
(Great Lakes, Ill.) ..... Lt., U.S.N.R.  
Braateli, N. T., Des Moines  
(Camp Carson, Colo.) ..... 1st Lt., U.S.A.F.  
Brennan, J. E., Des Moines  
(Camp Pendleton, Calif.) ..... Lt., U.S.N.R.  
Broman, J. A., Maquoketa  
(Ft. Sam Houston, Texas) ..... Capt., A.U.S.  
Buzan, E. F., Des Moines  
(Spring Grove, Ill.) .....  
Cline, H. L., Iowa City  
(Denver, Colorado) ..... A.U.S.  
Couchman, P. G., Des Moines  
(San Antonio, Tex.) ..... 1st Lt., U.S.A.F.  
Daut, R. D., Davenport (Gunter Air Force  
Base, Montgomery, Ala.) ..... Capt., U.S.A.F.  
Davidson, M. C., Emmetsburg  
(El Paso, Tex.) ..... Col., A.U.S.  
Donahoe, J. F., Fort Dodge  
(Des Moines, Iowa) ..... 1st Lt., A.U.S.  
Dooley, J. E., Fort Dodge  
(Pleasanton, Calif.) ..... Capt., U.S.A.F.  
Eckhardt, R. D., Iowa City  
(Portsmouth, Virginia) ..... Lt., U.S.N.R.  
Foley, W. E., Jr., Davenport  
(Phoenix, Arizona) ..... Capt., U.S.A.F.  
Garred, J. L., Whiting  
(San Diego, Calif.) ..... U.S.N.R.  
Gladstone, W. S., Jr., Iowa City  
(Crestview, Fla.) ..... U.S.A.F.  
Godbey, M. D., Mt. Pleasant  
(Gunter AFB, Alabama) ..... 1st Lt., U.S.A.F.  
Greco, D. J., Des Moines  
(APO San Francisco, Calif.) ..... 1st Lt., A.U.S.  
Hickman, D. M., Indianola  
(Gunter AFB, Ala.) ..... 1st Lt., U.S.A.F.  
Horton, R. R., Algona  
(Seattle, Wash.) ..... Lt., U.S.N.R.  
Iwen, G. W., Iowa City  
Jenkins, H. L., Ogden  
Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) ..... Capt., U.S.A.F.  
Johnson, M. H., Iowa City  
(APO New York, N. Y.) ..... Capt., A.U.S.  
Johnson, W. A., Emmetsburg  
(Corona, California) ..... Lt., U.S.N.R.  
Kenney, B. E., Woodbine  
(Raleigh, North Carolina) ..... 1st Lt., U.S.A.F.  
Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) ..... Lt., U.S.N.R.  
Kuehn, W. G., Clarinda  
(APO San Francisco, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Kuehnle, G. R., Dubuque  
(Baton Rouge, La.)  
Kurth, R. J., Waterloo  
(Minneapolis, Minn.) ..... Capt., U.S.A.F.  
Leiter, E. R. K., Des Moines  
(Bangor, Me.) ..... Capt., U.S.A.F.  
Martins, J. K., Waterloo  
(New London, Conn.) ..... Lt., U.S.N.R.  
Middleton, W. H., Central City

(Quantico, Va.) ..... U.S.N.R.  
Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) ..... Lt. Col., A.U.S.  
Neagle, P. E., Dubuque  
(Sault Ste. Marie, Mich.) ..... Capt., A.U.S.  
Paul, R. E., Des Moines  
(FPO San Francisco, Calif.) ..... Lt., U.S.N.R.  
Pfaff, R. A., Dubuque  
(Camp Pendleton, Calif.) ..... Lt., U.S.N.R.  
Prendergast, L. J., Iowa City  
(Oceanside, California) ..... U.S.N.R.  
Puntenney, A. W., Boone  
(Portsmouth, Va.) ..... Lt., U.S.N.R.  
Rhode, M. C., Iowa City  
(Philadelphia, Pa.)  
Ruble, R. L., Nevada  
(Camp Chaffee, Ark.) ..... A.U.S.  
Saunders, R. J., Colfax  
(APO San Francisco, Calif.) ..... 1st Lt., U.S.A.F.  
Schlichtemeier, E. O., Peterson  
(FPO San Francisco, Calif.) ..... Lt., U.S.N.R.  
Shaffer, F. J., Iowa City ..... Col., U.S.A.F.  
Shuldberg, Arthur, Des Moines  
(Gunter AFB, Ala.) ..... 1st Lt., U.S.A.F.  
Sinton, D. W., Iowa City  
(Colorado Springs, Colorado) ..... A.U.S.  
Smith, C. B., Iowa City  
(Bowling Green, Ky.) ..... Capt., A.U.S.  
Spohnheimer, L. N., Donnellson  
(Gunter Air Force Base, Alabama) 1st Lt., U.S.A.F.  
Stivers, T. W., Des Moines  
(Hutchinson, Kansas) ..... Lt. (jg) U.S.N.R.  
Stutsman, R. E., Washington  
(Miami, Fla.) ..... Cmdr., U.S.N.  
Sugioka, Kenneth, Iowa City  
(Long Island, N. Y.) ..... A.U.S.  
Theilen, E. O., Iowa City  
(Washington, D. C.) ..... Capt. A.U.S.  
Thistlewaite, E. A., Des Moines  
(Riverside, Calif.) ..... 1st Lt., U.S.A.F.  
Thompson, J. W., Ames  
Thornton, F. E., Des Moines  
(Portsmouth, Va.) ..... Lt. Cmdr., U.S.N.R.  
Tice, W. K., Iowa City  
(Kansas City, Kan.) ..... 1st Lt., A.U.S.  
Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) ..... 1st Lt., A.U.S.  
Uchiyama, J. K., Des Moines  
(Wichita Falls, Texas) ..... 1st Lt., U.S.A.F.  
Vincent, J. F., Fort Dodge  
(Langley A.F.B., Va.) ..... Capt., U.S.A.F.  
von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) ..... Lt., U.S.N.R.  
Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) ..... U.S.N.R.  
Walker, J. R., Waterloo  
(Bethesda, Maryland) ..... Lt., U.S.N.R.  
Walston, J. H., Graettinger  
(Gunter AFB, Ala.) ..... 1st Lt., U.S.A.F.  
Watson, C. F., Stacyville  
(Hot Springs, Ark.) ..... U.S.P.H.S.  
Wehrmacher, W. H., Iowa City  
(Oceanside, Calif.) ..... U.S.N.R.  
Westly, J. S., Mason City  
(Norfolk, Virginia) ..... Lt., U.S.N.R.  
Wiedemeier, J. L., Sioux City  
(APO San Francisco, Calif.) ..... 1st Lt., A.U.S.  
\*Wilkins, D. S., Iowa City  
(APO San Francisco, Calif.) ..... Capt., A.U.S.  
Witte, H. J., Marathon  
(San Francisco, Calif.) ..... Lt. Col., A.U.S.  
Young, R. A., Clarion  
(Ft. Sam Houston, Tex.) ..... Capt., A.U.S.  
Zeilenga, R. H., Orange City  
(Madison, Wisc.) ..... 1st Lt., U.S.A.F.

\* Deceased

# COUNTY MEDICAL SOCIETY OFFICERS

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	L. H. Ahrens, Fontanelle.....	A. J. Gantz, Greenfield.....	A. S. Bowers, Orient
Adams.....	A. W. Brunk, Prescott.....	J. C. Nolan, Corning.....	A. W. Brunk, Prescott
Allamakee.....	M. F. Kiesau, Postville.....	R. R. Jeffries, Waukon.....	J. W. Thornton, Lansing
Appanoose.....	C. F. Brummitt, Centerville.....	A. S. Owca, Centerville.....	E. A. Larsen, Centerville
Audubon.....	R. H. Payne, Exira.....	A. B. Cloud, Audubon.....	L. E. Jensen, Audubon
Benton.....	L. W. Koontz, Vinton.....	N. C. Knosp, Belle Plaine.....	N. C. Knosp, Belle Plaine
Black Hawk.....	F. H. Reuling, Waterloo.....	R. G. Randall, Waterloo.....	Craig D. Ellyson, Waterloo
Boone.....	R. S. Shane, Pilot Mound.....	Don Michaelson, Boone.....	
Bremer.....	R. E. Shaw, Waverly.....	R. P. Hardwig, Waverly.....	F. R. Sparks, Waverly
Buchanan.....	J. W. Barrett, Jr., Independence.....	J. F. Loeck, Independence.....	J. F. Loeck, Independence
Buena Vista.....	J. A. Cornish, Storm Lake.....	T. E. Shea, Storm Lake.....	H. E. Farnsworth, Storm Lake
Butler.....	M. D. Enna, Dumont.....	F. F. McKean, Allison.....	Bruce Ensley, Shell Rock
Calhoun.....	R. G. Klockslem, Rockwell City.....	W. Ashton McCrary, Lake City.....	W. W. Weber, Pomeroy
Carroll.....	P. L. Pascoe, Carroll.....	J. M. Tierney, Carroll.....	J. R. Martin, Carroll
Cass.....	J. F. Moriarty, Atlantic.....	D. E. Wilcox, Atlantic.....	Ralph Moe, Griswold
Cedar.....	H. E. O'Neal, Tipton.....	O. E. Kruse, Tipton.....	P. M. Hoffman, Tipton
Cerro Gordo.....	C. W. Thomas, Mason City.....	J. E. Christopherson, Mason City.....	L. W. Swanson, Mason City
Cherokee.....	D. C. Koser, Cherokee.....	J. B. Blair, Cherokee.....	C. E. Broderick, Cherokee
Chickasaw.....	A. L. Murphey, Fredericksburg.....	J. H. Ahrens, New Hampton.....	
Clarke.....	C. R. Harken, Osceola.....	H. N. Boden, Osceola.....	H. E. Stroy, Osceola
Clay.....	G. F. Fieselmann, Spencer.....	C. C. Jones, Spencer.....	C. C. Jones, Spencer
Clayton.....	T. W. Lichter, Edgewood.....	A. R. Powell, Elkader.....	P. R. V. Hommel, Elkader
			A. M. Cochrane, Adel
Clinton.....	R. E. Dwyer, Clinton.....	D. F. Mirick, Clinton.....	R. F. Luse, Clinton
Crawford.....	M. U. Broers, Schleswig.....	R. M. Johnson, Dennison.....	R. M. Johnson, Denison
Dallas-Guthrie.....	C. A. Nicoll, Panora.....	W. C. Wildberger, Perry.....	C. A. Nicoll, Panora
Davis.....	E. O. Gilfillan, Bloomfield.....	W. D. Haufe, Bloomfield.....	G. W. Gilfillan, Bloomfield
Decatur.....	G. W. Swanson, Lamoni.....	W. N. Doss, Leon.....	W. N. Doss, Leon
Delaware.....	R. E. Clark, Manchester.....	J. E. Tyrrell, Manchester.....	J. W. Willett, Manchester
Des Moines.....	J. F. Sulzbach, Burlington.....	W. C. Friday, Burlington.....	F. G. Ober, Burlington
Dickinson.....	J. J. Buchanan, Milford.....	R. F. Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park
Dubuque.....	L. A. Faber, Dubuque.....	P. J. Laube, Dubuque.....	D. F. Ward, Dubuque
Emmet.....	M. T. Morton, Estherville.....	E. K. Vaubel, Estherville.....	C. S. Kirkegaard, Estherville
Fayette.....	L. W. Ward, Oelwein.....	R. S. Jaggard, Oelwein.....	A. F. Grandinetti, Oelwein
Floyd.....	C. S. Baltzell, Charles City.....	E. V. Ayers, Charles City.....	A. F. Fox, Charles City
Franklin.....	W. L. Randall, Hampton.....	Dorothy Heuerman, Coulter.....	W. L. Randall, Hampton
Freemont.....	R. Lovelady, Sidney.....		R. Lovelady, Sidney
Greene.....	E. D. Thompson, Jefferson.....	G. F. Canady, Jefferson.....	M. H. Brinker, Jefferson
Grundy.....	H. V. Kahler, Reinbeck.....	W. K. Kienzie, Wellsburg.....	E. A. Reedholm, Grundy Center
Hamilton.....	R. A. Patterson, Webster City.....	W. B. McGahey, Webster City.....	B. F. Howar, Webster City
Hancock-Winnebagos.....	L. W. Eller, Kanawha.....	K. J. Kroack, Buffalo Center.....	C. V. Hamilton, Garner
Hardin.....	P. F. Tempel, Steamboat Rock.....	F. N. Cole, Iowa Falls.....	L. F. Parker, Iowa Falls
Harrison.....	Hans Hansen, Logan.....	F. X. Tamisea, Missouri Valley.....	A. C. Bergstrom, Missouri Valley
Henry.....	K. P. Beebe, Mt. Pleasant.....	R. B. Widmer, Winfield.....	J. R. Beebe, Mt. Pleasant
Howard.....	P. A. Nierling, Cresco.....	D. O. Maland, Cresco.....	P. A. Nierling, Cresco
Humboldt.....	A. S. Arent, Humboldt.....	A. E. Jensen, Humboldt.....	I. T. Schultz, Humboldt
Ida.....	E. H. Heilman, Ida Grove.....	J. B. Dressler, Ida Grove.....	M. W. Grubb, Galva
Iowa.....	L. A. Miller, North English.....	I. J. Sinn, Williamsburg.....	C. F. Watts, Marengo
Jackson.....	O. L. Frank, Maquoketa.....	J. J. Tilton, Bellevue.....	F. J. Swift, Maquoketa
Jasper.....	L. H. Koelling, Newton.....	L. D. Norris, Newton.....	J. W. Ferguson, Newton
Jefferson.....	Ludwig Gittler, Fairfield.....	Frank H. McClurg, Fairfield.....	R. A. McGuire, Fairfield
Johnson.....	A. E. Braley, Iowa City.....	J. S. Greenleaf, Iowa City.....	G. C. Albright, Iowa City
Jones.....	C. R. Smith, Wyoming.....	R. W. Myers, Monticello.....	T. M. Redmond, Anamosa
Keokuk.....	E. R. Gann, Sigourney.....	A. M. Harwood, Sigourney.....	D. L. Grothaus, Delta
Kossuth.....	L. O. Snook, Wesley.....	J. M. Schutter, Algona.....	J. G. Clapsaddle, Burt
Lee.....	F. L. Steffy, Keokuk.....	Sebastian Amberry, Keokuk.....	L. C. Humphrey, Keokuk
			F. L. Feightner, Fort Madison
Linn.....	R. Y. Netolicky, Cedar Rapids.....	E. L. Lindley, Cedar Rapids.....	
Louisa.....	E. S. Groben, Columbus Jct.....	J. H. Chittum, Wapello.....	J. H. Chittum, Wapello
Lucas.....	H. D. Jarvis, Chariton.....	R. E. Anderson, Chariton.....	R. E. Anderson, Chariton
Lyon.....	H. H. Gessford, George.....	S. H. Cook, Rock Rapids.....	S. H. Cook, Rock Rapids
Madison.....	R. W. Carson, Winterset.....	J. E. Evans, Winterset.....	C. B. Hickenlooper, Winterset
Mahaska.....	E. B. Wilcox, Oskaloosa.....	G. S. Atkinson, Oskaloosa.....	E. B. Wilcox, Oskaloosa
Marion.....	R. B. May, Knoxville.....	J. W. Doles, Knoxville.....	H. L. Bridgeman, Knoxville
Marshall.....	R. M. Wolfe, Marshalltown.....	H. E. Sauer, Marshalltown.....	R. C. Carpenter, Marshalltown
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	W. A. DeYoung, Glenwood
Mitchell.....	W. E. Owen, St. Ansgar.....	R. H. Huber, Osage.....	J. O. Eiel, Osage
Monona.....	J. L. Garred, Whiting.....	P. L. Wolpert, Onawa.....	C. W. Young, Onawa
Monroe.....	R. A. Smith, Albion.....	H. J. Richter, Albion.....	H. J. Richter, Albion
Montgomery.....	Oscar Alden, Red Oak.....	S. R. Smith, Red Oak.....	E. L. Croxdale, Villisca
Muscatine.....	R. W. Asthalter, Muscatine.....	L. H. Whitmer, Muscatine.....	C. P. Phillips, Muscatine
O'Brien.....	A. D. Blendeman, Paullina.....	W. S. Balkema, Sheldon.....	T. D. Kas, Sutherland
Osceola.....	E. S. Aeilts, Sibley.....	F. M. Rizzo, Sibley.....	F. M. Rizzo, Sibley
Page.....	G. H. Powers, Shenandoah.....	S. T. Ramsdell, Clarinda.....	C. H. Flynn, Clarinda
Palo Alto.....	R. D. Workman, Ruthven.....	C. C. Moore, Emmetsburg.....	H. L. Brereton, Emmetsburg
Plymouth.....	R. J. Fisch, LeMars.....	L. C. O'Toole, Le Mars.....	H. L. Vander Stoep, Le Mars
Pocahontas.....	W. F. Brinkman, Pocahontas.....	C. L. Jones, Gilmore City.....	C. L. Jones, Gilmore City
Polk.....	F. M. Burgeson, Des Moines.....	F. C. Coleman, Des Moines.....	M. T. Bates, Des Moines
Pottawattamie.....	H. W. Mathiasen, Council Bluffs.....	A. M. Pedersen, Council Bluffs.....	C. V. Edwards, Council Bluffs
Poweshiek.....	E. S. Korfmacher, Grinnell.....	L. C. Hickerson, Brooklyn.....	S. D. Porter, Grinnell
Ringgold.....	E. J. Watson, Diagonal.....	J. W. Hill, Mt. Ayr.....	E. J. Watson, Diagonal
Sac.....	J. H. Stalford, Sac City.....	L. D. Amick, Sac City.....	E. J. Lierman, Lake View
Scott.....	J. F. Bishop, Davenport.....	A. B. Hendricks, Davenport.....	P. A. White, Davenport
Shelby.....	J. H. Spearing, Harlan.....	E. J. Vosika, Shelby.....	R. E. Donlin, Harlan
Sioux.....	M. O. Larson, Hawarden.....	C. B. Murphy, Alton.....	William Doornink, Orange City
Story.....	G. E. Montgomery, Ames.....	W. B. Armstrong, Ames.....	J. D. Conner, Nevada
Tama.....	C. W. Mapletorpe, Jr., Toledo.....	A. J. Havlik, Tama.....	A. J. Havlik, Tama
Taylor.....	R. W. Boulden, Lenox.....	H. C. Moore, Clearfield.....	G. W. Rimel, Bedford
Union.....	J. L. Hoyt, Creston.....	H. J. Peggs, Creston.....	H. G. Beatty, Creston
Van Buren.....	R. E. Olsen, Milton.....	J. T. Worrell, Keosauqua.....	L. A. Coffin, Farmington
Wapello.....	D. E. Emanuel, Ottumwa.....	E. B. Hoeven, Ottumwa.....	C. A. Henry, Farson
Warren.....	C. A. Trueblood, Indianola.....	R. C. McGeehan, Indianola.....	C. A. Trueblood, Indianola
Washington.....	G. J. Nemmers, Washington.....	W. S. Kyle, Washington.....	M. L. McCreedy, Washington
Wayne.....	L. B. Calbreath, Humeston.....	C. F. Brubaker, Corydon.....	J. H. McCall, Allerton
Webster.....	F. S. Larsen, Fort Dodge.....	J. R. Kersten, Fort Dodge.....	C. J. Baker, Fort Dodge
Winnebago.....	L. E. Larson, Decorah.....	A. F. Fritchen, Decorah.....	L. C. Kuhn, Decorah
Woodbury.....	R. C. Mugan, Sioux City.....	P. W. Osincup, Sioux City.....	D. B. Blume, Sioux City
Worth.....	G. S. Westly, Manly.....	B. H. Osten, Northwood.....	G. S. Westly, Manly
Wright.....	R. C. Eaton, Clarion.....	J. R. Christensen, Eagle Grove.....	S. P. Leinbach, Belmond



# *The* JOURNAL

*of the*

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, JULY, 1953

No. 7

### THE CLINICIAN—AN OBITUARY\*

HORACE M. KORNS, M.D.

IOWA CITY

THIS IS A tribute to a man who learned to diagnose most of the somatic diseases by simple bedside means. It does not measure up to current neurological standards because many details are wanting. No one knows when this man was born, or when the large cholesterol molecules caught up with him. He may have belonged to organizations which were intended by their founders to encourage the advancement of science. If it had not been for Galileo, he might have tried to become a "teacher." It is known that some of his ancestors flourished centuries before Christ, and that many others were conspicuously active throughout the last four hundred years.

Even as a young man, he evinced distinguishing traits. When he received his medical diploma he knew that he was legally, but not actually, qualified to practice. Unlike most of his colleagues, he realized that his work was just beginning. He could not share their smug attitude toward courses completed and grades attained. In his mind there was no room for complacency. The cardinal virtue of the physician is not ambition, but humility, and he perceived that he would always have to be a student of Medicine and Mankind. He soon became aware of the fact that there is no such thing as an "expert" or an "authority."

Out of the rudiments of physical diagnosis he fashioned a delicate instrument and became its virtuoso. Examining patients was not a dismal routine. It was a dynamic and surprisingly fruitful procedure. It strained his resources to the utmost, and it required long hours of exhausting and unspectacular work. He never made the mistake of separating the history from the physical examination. Instead, he wove each into the other until the pattern became clear. His resourcefulness enabled him to go far beyond the limits of ordinary history taking. It was almost as if he started where others left off. His responsibilities were great. None of

them could be delegated—least of all, history taking. The last thing he learned was how to elicit the history. He had to know what to regard and what to disregard, what to accept and what not to accept. Somewhat to his surprise, he discovered that, in many cases, it is impossible to obtain the history until the diagnosis has been made.

He understood that a diagnosis is only a point of view, but he insisted that it must be supported by something more tangible than "intuition." It has to stand on as many legs as possible, and is perilously unstable if it has only one or two. Laboratory data which could not be harmonized with clinical observations were rejected summarily. It did not take him long to find out that statistics have no place at the bedside. The rarest of diseases is the most important one in the world to the person who has it. He had no patience with those who could not, or would not, recognize a disease because it is "unusual" or "practically unheard of." In one short week he encountered three cases of an extremely uncommon disease. The high brass whom he consulted said that this disease should not be diagnosed very often because it is rare. The snort with which he greeted that statement can still be heard. Thereafter, nothing amused him so much as to hear a person say that something was unlikely or impossible because "he had never seen it."

He was relentless in his attack on the loose talk and muddled thinking which obscure the aims and befoul the methods of physical diagnosis. Young associates who reported that the patient had a pulsation in the neck were reminded that, as far as the carotid artery and jugular bulb are concerned, this is common before death. The point is, of course, that, if the venous pulsation persists when the patient sits up, venous pressure is above normal.

When he examined the lungs he was trying to gain an estimate of their volume, density, and extensibility. He employed the usual methods, and perhaps added some of his own devising, but he never confused the end with the means. He could not possibly have been guilty of saying that "the lungs are clear to percussion and auscultation," or that "expiration is prolonged."

\* Presented at the Thirty-Second Annual Session of the American College of Physicians, St. Louis, Missouri, April 9, 1951.

Bedside analysis of cardiodynamics fascinated him. It began with study of the arterial pulse. Early in his career he wondered why people talked about the pulse rate, or characterized the pulse as "strong" or "weak." He reasoned that an engineer would count the revolutions of the crankshaft, rather than the puffs that came from the exhaust pipe, and he did not need an engineer to tell him that without a lot of complicated apparatus it is impossible to measure by the pulse wave the amount of energy expended, and that such a reading would be meaningless anyway. Nothing about the pulse is of any importance whatsoever except its volume and contour. He could easily apprehend both by palpation, and this enabled him to ascertain how, and to what extent, the stroke volume of the left ventricle had been altered. In order to follow the changes which occur in the course of transmission, his examination always included the carotid, brachial, radial, and femoral.

If the heart was the seat of hypertrophy, he had to know whether the hypertrophy was symmetrical, and, if not, which of the ventricles was the larger. He perceived that there is no such thing as an overactive heart. The heart is always precisely as active as circumstances require. Overaccessibility, however, may indicate enlargement, and this is readily detected by inspection and palpation. Percussion enabled him to locate accurately the left and right borders of the heart only if the method was definitive. This meant a small pleximeter area and a penetrating blow with one finger which damped the vibrations immediately. These requirements could not be met by mediate percussion. Furthermore, the patient had to be in the erect position in order to keep the heart as close to the chest wall as possible. It is unfortunate that he did not live to see papers such as those which appeared recently in two well-known American medical journals\* concerning the differential diagnosis of pericardial effusion, for then we could record the fact that he laughed himself to death. Effusion into the pericardial sac, unlike any of the conditions with which it may be confused, causes downward rotation of the liver, and it took him only a few seconds to ascertain whether or not rotation had occurred.

Auscultation played a minor role in his analyses because there was seldom any direct correlation between the character of adventitious sounds and alterations in cardiodynamics, but he did not underestimate its importance in the broad field of diagnosis. In fact, one of his outstanding contributions dealt with murmurs. He savagely attacked the term "functional heart murmur." If a murmur does not function it cannot be heard, and, therefore, all murmurs are "functional." The point is that some murmurs are endocardial and some are extracardial. The latter originate in

the lung adjacent to the heart, and are of no consequence. He demonstrated that one can distinguish between these two kinds of murmurs in almost every case, but few people paid any attention. The trick was too simple. It was not done with isotopes, no electronic equipment was required, and not a single catheter had to be diverted from its traditional channel. And so it is that nobody knows how many men threw baseballs instead of hand grenades, how many persons were kept needlessly in bed for how many years, how much life insurance was not written, and how many anxiety neuroses were generated—all because examiners could not detect cardiopulmonary murmurs.

Auscultation of the heart yielded no useful information until he learned to time what he heard, that is, to tell what was systolic and what was diastolic. At first he thought he could do this with the stethoscope, but, after he encountered first heart sounds that sounded more like second heart sounds than second heart sounds did, he never failed to keep his thumb on the carotid pulse while he was listening.

His study of respiratory symptomatology was particularly illuminating. He pointed out the importance of distinguishing between shortness of breath, or air hunger, and dyspnea. True air hunger, not neurotic sighing, is simply hyperpnea of which the patient is conscious, whereas dyspnea connotes a sense of choking. A person may have air hunger without dyspnea, dyspnea without air hunger, or both dyspnea and air hunger. Shortness of breath is a nondescript symptom, but dyspnea is usually a manifestation of coronary artery disease. He differentiated three kinds of nocturnal respiratory symptoms, namely, cardiac dyspnea, bronchial asthma, and slumber apnea with waking hyperpnea, and showed that they are unrelated etiologically. He also knew that cardiac dyspnea and bronchial asthma may co-exist. Needless to say, he reserved his choicest invective for the term "cardiac asthma."

Early in the twentieth century his latent interest in arterial pressure was tremendously quickened when he heard the great news that the minimum diastolic pressure of human beings could be measured bloodlessly. Now, at last, he could ascertain the resistance which the pump has to overcome in order to deliver blood to all parts of the body, and he soon found that, the greater the average, or mean, resistance, the more the heart was embarrassed. This gave birth to the modern concept of hypertension. The maximum systolic level did not matter much as long as the minimum diastolic was normal. Contrariwise, if the minimum diastolic pressure was 100 mm. Hg, it mattered a great deal if the maximum systolic was only 110 mm. Hg. His delight in his new-found ability to measure minimum diastolic pressure was short-lived because so few apprehended its significance. Physicians and laymen kept talking about blood pressures of 190 or 240.

\* References furnished on request.



Sometimes they grudgingly admitted that the blood pressure was something *over* something. Eventually, this led him to demand that blood pressure be recorded as something *under* something, and to recommend the death penalty for persons who spoke of it in any other terms. He did not discard the sphygmomanometer entirely until he heard that patients were being "treated" for "low blood pressure," and he probably would not have done so then if he had not received an appeal for help from an 88-year-old colleague who had "suffered" from "low blood pressure" all his life.

He was constantly intrigued by the problem of congestive heart failure. Bedside observations convinced him that failure of the heart as a pump could not account for some of its manifestations. How could there be any serious impairment of minute-volume blood flow when the temperature of the edematous legs was so far above that of their environment that the patient kept them constantly uncovered? In many cases the edema accumulated in one region only. It might be limited to one pleural sac, or to the peritoneal cavity. The same was often true of stasis. It might be conspicuous in the liver and absent everywhere else. How could these observations be reconciled with the laws of gravity and hydraulics? He began to experiment with diuretics, and scored minor successes with members of the xanthine group, but it was not until the advent of the powerful mercurial diuretics that the results became spectacular. When a water-logged patient with cyanosis and obligate orthopnea was completely relieved by the administration of one of these substances, he knew that his original observations were sound. Edema was a part of the disease, not just a symptom. Mercurial diuretics could have no direct effect on the myocardium, except a noxious one, yet blood flow improved. The corollary was that digitalis should not be administered indiscriminately to patients with congestive heart failure. In fact, unless the patient has auricular fibrillation with a rapid ventricular rate, digitalis is usually contraindicated at the outset because the results of treatment with mercurial diuretics are, as a rule, much better, and because digitalis tends to accumulate in edematous tissues, from which, if diuresis occurs, it may be released suddenly, in large amounts, with disastrous consequences. And so, with nothing but the obsolete equipment of the clinician, and without a grant from any Foundation, he not only demonstrated that congestive heart failure is a disease which has broad biologic ramifications, but also anticipated by many decades our present preoccupation with electrolyte and water balance.

Now let us bow our heads in silent tribute to this mighty man. He and his methods are regrettably old fashioned. We hope that he was buried when granite headstones were in style, for it was out of such material that he chiseled his diag-

noses. This is his epitaph: He allowed no one to usurp his inalienable right to make all of the final decisions in matters pertaining to the diagnosis of disease and the treatment of patients. He was a clinician.

## CESAREAN SECTIONS IN IOWA 1950

MADELENE M. DONNELLY, M.D., M.P.H.\*  
DES MOINES

THE SUBJECT of cesarean sections arouses so much controversy in both medical and lay groups, that it certainly is fitting that the medical profession keep in constant touch with the rates of and indications for sections. It is our attempt to clarify for you the picture of cesarean sections in Iowa on a year to year basis. This study is based solely on information obtained from birth and death certificates and lack of our information is due to incompleteness of such certificates.

It is evident that the rate of cesarean section has been steadily increasing with the use of antibiotics and whole blood. Today sections may be done fearlessly in the same way we can recommend internal inspection of the uterus if there is the slightest suspicion of uterine rupture or retention of placenta. Fifteen years ago such a procedure would have meant sure maternal loss from infection, but today antibiotics are an adequate safeguard. Likewise, if a forceps attempt fails or if one would mean severe damage to the fetus, a cesarean may be done, dependent upon antibiotics and whole blood.

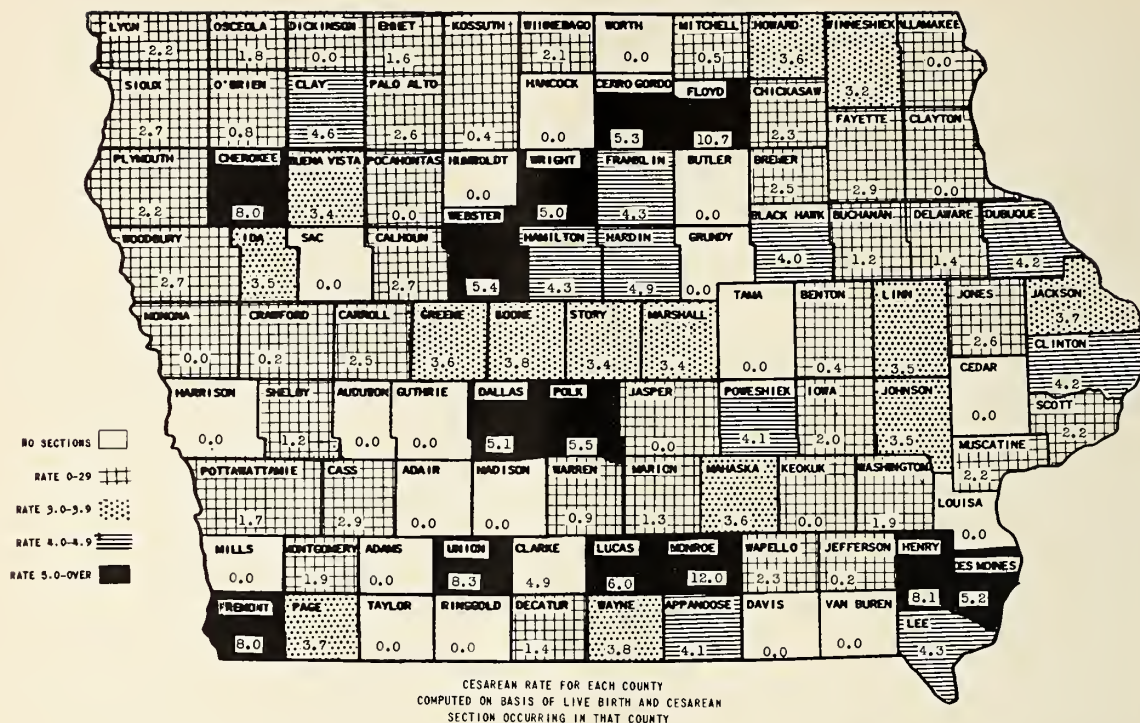
In 1950 there were 63,624 live births with 2,169 cesarean sections—an over all rate of 3.41 sections per 100 live births, approximately the same as in 1949. One of our great fallacies in reporting rates related to childbirth is that we do not take into consideration the number of stillbirths. Our reporting is done on an International basis. Therefore, to have our state statistics comparable with those of other states we must continue to do this. This is giving us a biased picture and we certainly should consider the fetus whether it be alive or dead. It still is the birth of a child. In ignoring stillbirths (fetal deaths) we may overlook facts that might prevent death of these babies in utero.

The section rate of 3.41 sections per 100 live births is not different from 1949. The rates by counties do not change too much and comparison of the maps from the two years will verify this fact.

We next studied the cesarean sections as done in hospitals, grouping them in various ways. Here again, we accepted figures given by the hospitals in their annual reports. Of the 147 hospitals licensed to operate in 1950, three failed to give us the numbers of their deliveries. Mathematically

\*Director, Division of Maternal & Child Health, Iowa State Department of Health.

## INCIDENCE OF CESAREAN SECTION IN 1949 BY OCCURRENCE



we determined that these three hospitals totaled 1,178 deliveries, 6 of which were by section.

The remaining hospitals were grouped first by size. Here we find not much variation in rates with the exception of the group of smallest hospitals. We would expect this rate to be lower, but it involves less than one per cent of all live births. Figures on rates by size of hospital are available, but we did not feel they warranted printing.

Obstetrical and neonatal care is better clarified when hospitals are grouped by the number of deliveries done annually.

## HOSPITALS GROUPED BY NUMBER DELIVERIES DONE IN 1950

	No. Hosp.	% Hosp.	No. L.B.	% Del.	No. C.S.	% C.S.	Rate*
Under 100 deliveries**	22	15.28	1,163	1.82	55	2.53	4.73
100-499 deliveries	82	56.93	22,184	34.87	804	37.07	3.62
500-999 deliveries	28	19.36	18,837	28.60	692	21.90	3.67
1,000 deliveries & over	12	8.33	17,423	27.38	612	28.21	3.51

\* Rate per 100 live births.

\*\* The figures on the hospitals doing less than 100 deliveries are colored by one particular hospital. This hospital frankly states that it does not accept any obstetrical cases except those which are complicated. Hence, this hospital with only 47 deliveries had a section rate of 65 per 100 live births. If we did not consider this hospital, the section rate for this group would be 2.15 sections per 100 live births.

We should consider next what these hospitals represent when we group them in accordance with their section rates.

## HOSPITALS GROUPED BY SECTION RATES

Rate per 100 Live Births	No. Hosp.	% Hosp.	No. L.B.	% L.B.	C.S.	% C.S.
No sections	14	9.72	1,363	2.14	0	0
Rate 0.00-2.99	61	42.36	25,340	39.82	510	23.51
Rate 3.00-3.99	25	17.36	13,894	21.84	480	22.13
Rate 4.00-4.99	13	9.02	6,773	10.64	315	14.52
Rate 5.00-5.99	13	9.02	7,268	11.58	392	18.07
Rate 6.00-9.99	11	7.64	3,578	5.61	273	12.58
Rate 10.00 & over	7	4.86	1,391	2.19	193	8.89

This table should give a hopeful side to the consideration of sections. We should worry about hospitals that do no sections in that unless we know they have a good system of referral of complicated cases, we feel that some women are not sectioned who would be better for a section. Only 2 per cent of all babies are delivered in such hospitals. 7.8 per cent of all babies are delivered in hospitals having rates of 6.00 sections and over per 100 live births. Consequently more than 90 per cent of all deliveries occur in hospitals where the section rate does not deviate too far from the average.

## The Mother

## RESIDENCY

Of the cesarean mothers 50.7 per cent live in rural areas; 13.3 per cent in areas of population from 2,500 to 10,000 and 35.4 per cent in areas over 10,000 population. It is of interest to note where the various population groups were delivered.

The following table shows by percentage where



the women of various population groups were sectioned.

	Deliveries per year:					
	Hospital: Under 50 Beds	51 Beds or over	Under 100	100-499	500-999	1,000 and over
Rural	43%	57%	3.0%	44%	33%	18%
Town	53%	47%	0.4%	56%	27%	16%
Urban	12%	88%	2.0%	19%	31%	46%

The residency of the mother played a definite part in the size of the hospital she chose for her delivery, both by beds and by numbers of deliveries done.

RESIDENCY IN RELATION TO HOSPITAL

The mothers are residents of the county in which the surgery occurs in 66.5 per cent of the cases, with definitely more of the rural mothers having to go outside of their home counties for hospitalization as follows:

Rural women—46.8% resident of county in which hospitalized  
Town women—76.4% resident of county in which hospitalized  
Urban women—92.9% resident of county in which hospitalized

The residency of the mothers did not vary significantly with the other variations of the hospitals.

Size Hospital	% Resident in County
Less than 10 beds	66.6%
10—25 beds	52.4%
26—50 beds	73.3%
51—100 beds	66.7%
101 beds & over	62.2%

No. Deliveries Per Yr.	
Less than 100	74.5%
100—499	69.7%
500—999	64.1%
1,000 and over	66.5%

Hospitals Grouped by C.S. Rate	
0	67.5%
0—2.9	70.2%
3—3.9	57.7%
4—4.9	65.3%
5—5.9	69.2%
6—9.9	74.0%
10 & over	67.0%

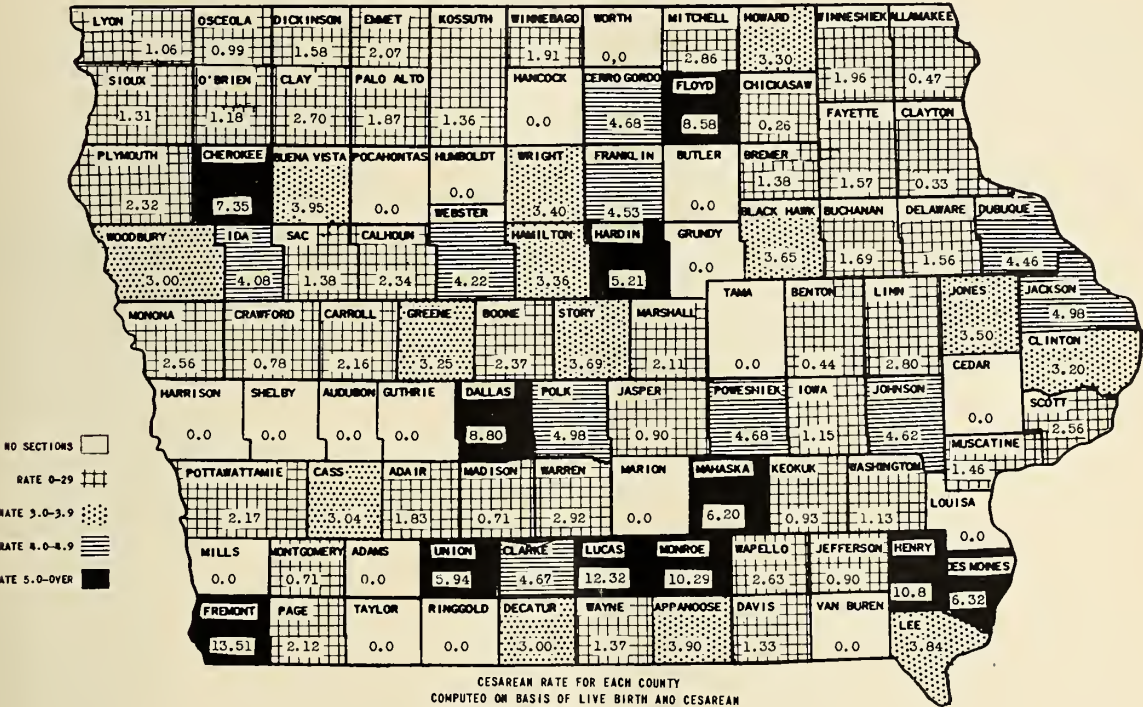
AGE AND PARITY

Ten per cent of all new mothers in Iowa in 1950 were under 20, 63 per cent were 20-29, 25 per cent were 30-39 and 2½ per cent were 40 or over. In the section group the age shifted to an older group. While 10 per cent were under 20, only 56 per cent were 20-29, 33 per cent were 30-39 and 4 per cent were 40 or over.

Thirty per cent of all mothers in 1950 were having their first baby, 31 per cent the second, 19 per cent the third and 20 per cent were having the fourth or more. In the section group 30 per cent were also having their first babies, while 34 per cent were having the second baby, 20 per cent the third and only 15 per cent the fourth or more.

There also is a noticeable difference between the entire group and the sectioned group when it comes to period that the doctor was first consulted. Sixty-five per cent of all women saw the doctor in the first trimester while 75 per cent of all sectioned mothers saw him in the first trimester.

INCIDENCE OF CESAREAN SECTION IN 1950 BY OCCURRENCE



## REASON FOR DELIVERY

We assume that any complication of pregnancy or labor as stated on the birth certificate is the indication for doing a section. Unfortunately 43 per cent of all cesarean section certificates had the word "none" or nothing at all entered in the blank. The following were the complications of pregnancy as listed on the certificates.

## COMPLICATIONS OF PREGNANCY; PERCENTAGE BY AGE GROUP

	Total	Under 20	20-29	30-39	40 & over
No complication	42.8%	38.6%	42.7%	43.8%	46.9%
Previous section	12.5%	5.1%	13.7%	13.3%	8.6%
All dystocias	17.4%	27.9%	18.0%	13.5%	12.3%
All abnormalities of placenta	9.9%	5.5%	10.3%	10.3%	12.3%
All malpositions	3.3%	2.3%	3.0%	4.1%	3.7%
All toxemias	5.6%	8.8%	5.0%	5.5%	3.7%
Failure of labor	2.8%	5.6%	2.3%	3.1%	1.2%
All others	5.7%				

Dystocia, toxemia and failure of labor were more of a complication in the younger group, and abnormalities of placenta (which includes abruptio placenta, placenta praevia and all bleeding) became more important in older age groups.

The parity of the mothers also influenced the complications as seen in the next chart.

	All	Para 0	Para 1	Para 2	Para 3
No complication	42.8%	33.8%	47.8%	47.2%	47.2%
Previous section	12.5%	0%	20.3%	19.5%	11.5%
Dystocia	17.4%	31.1%	14.4%	9.6%	4.3%
Abnormal placenta	9.9%	6.3%	8.5%	10.1%	19.7%
Malposition	3.3%	5.2%	0.9%	3.8%	4.0%
Toxemia	5.6%	10.9%	2.2%	3.4%	4.9%
Failure of labor	2.8%	6.6%	0.9%	0.7%	1.9%
Other	5.7%				

Dystocia, toxemia, and failure of labor were more commonly the complication not only in the younger group, but also in the women pregnant for the first time. Abnormalities of the placenta increased as parity increased.

It may be of interest to compare complications of pregnancy as they were recorded by hospitals of various sizes and then compare them with complications as recorded by hospitals of various section rates.

## HOSPITALS BY SIZE

(Number of Beds)

	Total	Under 10	10-25	26-50	51-100	101 & over
No complications	42.8%	58.3%	49.6%	37.5%	38.4%	45.7%
Previous section	12.5%	0%	10.1%	9.8%	13.2%	14.2%
Dystocia	17.4%	33.3%	15.3%	24.6%	15.9%	14.7%
Abnormal placenta	9.9%	0%	9.6%	8.3%	13.4%	9.0%
Malposition	3.3%	8.4%	3.5%	3.5%	3.2%	3.2%
Toxemia	5.6%	0%	4.8%	6.5%	6.8%	4.8%
Failure of labor	2.8%	0%	3.5%	3.3%	3.6%	2.1%
Other	5.7%					

## (Number of Deliveries)

	Total	Under 100	100-499	500-999	1000 & over
No complications	42.8%	33.3%	41.9%	41.7%	42.6%
Previous section	12.5%	8.3%	11.4%	11.8%	15.0%
Dystocia	17.4%	29.2%	18.5%	15.5%	16.0%
Abnormal placenta	9.9%	8.3%	9.7%	10.5%	9.5%
Malposition	3.3%	12.5%	3.5%	4.0%	1.9%
Toxemia	5.6%	8.3%	4.3%	5.0%	5.1%
Failure of labor	2.8%	4.6%	3.0%	2.3%	3.1%
Other	5.7%				

## HOSPITALS BY SECTION RATE

	Total	0-2.9*	3-3.9*	4-4.9*	5-5.9*	6-9.9*	10 & over*
No complications	42.8%	40.6%	50.4%	29.5%	40.2%	45.1%	52.3%
Previous section	12.5%	10.8%	8.5%	19.6%	16.1%	13.9%	4.6%
Dystocia	17.4%	17.4%	14.8%	20.6%	17.1%	13.5%	22.3%
Abnormal placenta	9.9%	11.7%	10.0%	13.0%	7.4%	8.4%	6.2%
Malposition	3.3%	3.9%	3.1%	3.1%	2.8%	4.8%	1.5%
Toxemia	5.6%	7.4%	5.2%	4.1%	5.1%	5.5%	4.5%
Failure of labor	2.8%	2.7%	2.9%	0.9%	4.3%	2.5%	3.6%
Other	5.7%						

\* Rate per 100 live births

There seem to be a few significant variations in complications as the size of hospitals varies. It is certainly evident that hospitals with excessively high rates do not have birth certificates completed even as well as average and repeat section is not responsible for their high rate.

Although ruptured uterus was not entered as a complication frequently enough to be listed separately, we do see more of this every year. In 1950 there were 18 ruptured uteri reported. Tubal ligation was entered as a complication or indication for section in 20 cases.

## MATERNAL DEATHS

There were 39 maternal deaths in Iowa in 1950. Eleven (28.2 per cent) of these occurred following sections.

## DEATHS FOLLOWING SECTION

Complications of Pregnancy & Labor		Cause of Death	
Tetany	1	Toxemia	1
Previous section	1	Placenta Praevia	2
Dystocia	1	Shock	1
Placenta Praevia	1	Puerperal thrombosis	3
Renal disease	1	Puerperal pulmonary emboli	3
Inertia	1	Puerperal eclampsia	1
Ventral hernia	1		
No complications	4		

As we have related other information about cesareans to the hospital itself, we should do so with the maternal deaths. With only 11 maternal deaths following sections, we have considered all the 39 maternal deaths.



## 1950 MATERNAL DEATHS

(By hospitals according to number of deliveries)				
Hospitals	No. Deliveries	Maternal Death	Rate/10,000 L.B.	No. deaths following C.S.
Less than 100 del./yr.	1,163	0	0	
100-499 del./yr.	22,184	20	9.0	4
500-999 del./yr.	18,837	14	7.4	7
1000 & over del./yr.	17,423	3	1.7	0
All other deliveries	4,017	2	..	..
<b>TOTAL</b>	<b>63,624</b>	<b>39</b>	<b>6.1</b>	<b>11</b>

(By hospitals grouped according to section rate)

Hospitals by C.S. Rate	No. Deliveries	Maternal Death	Rate/10,000 L.B.	No. deaths following C.S.
No. sections	1,363	1	7.3	
0-3.99 per 100 L.B.	39,234	19	4.9	3
4-5.99 per 100 L.B.	14,041	11	7.7	4
6 & over per 100 L.B.	4,969	6	12.0	4
All other deliveries	4,017	2		
<b>TOTAL</b>	<b>63,624</b>	<b>39</b>	<b>6.1</b>	<b>11</b>

*The Infant*

## PREMATURITY

The premature rate was higher among the section babies. The overall rate in Iowa is 5.99 per cent premature by virtue of standard of 5 lb. 8 oz. or less being called premature. In case weight is not given, any having had a gestation of less than 37 weeks is called a premature.

Of the 2,199 section babies, 251 or 11.41 per cent were premature. Of these, 29 weighed less than 3 lbs. and 35 between 3 and 4 lbs. Prematurity also varied with other conditions as seen in the next chart. There was no significant variation in prematurity in various groups of hospitals.

*Premature Infants*

Overall state	5.99%
All sections	11.4 %
Rural mothers	10.69%
Town mothers	12.1 %
Urban mothers	12.2 %

*Mother's Age:*

Under 20	8.67%
21-30	12.3 %
31-39	10.8 %
40 & over	14.8 %

*Parity:*

0	9.6 %
1	11.8 %
2	12.5 %
3 & over	17.4 %

## FETAL AND NEONATAL DEATHS

One of the principal reasons for a section is to have a baby and mother who will live. Unfortunately, statistics show that we do not always accomplish this. In 1950 the overall neonatal death rate was 18.9 and the fetal death rate 15.0 per 1,000 live births. On the sectioned babies the neonatal death rate was 49.1 per 1,000 live births and the fetal death rate 29.5 per 1,000 live births. There was no significant variation in death rates in the various groupings of hospitals. There was

a significant variation in rates with age and parity of mothers.

Age Group Mother	N.N.D. Rate*	F.D. Rate*	Peri-natal Death Rate*
Under 20	27.4	18.3	45.6
20-29	46.8	28.1	74.9
30-39	61.1	36.1	97.2
40 & over	39.0	24.7	69.1
<b>Parity</b>			
0	32.4	20.6	53.1
1	47.0	22.8	70.4
2	61.3	30.7	92.0
3 & over	76.7	64.4	110.4

\* Rate per 1,000 live births

The complications of pregnancy in the fetal and neonatal death showed a definite increase in the complications which would lead to trouble.

	All C.S.	Peri-natal Deaths
No complications of pregnancy, labor	42.8%	26.5%
Previous section	12.5%	5.7%
Dystocia	17.4%	4.5%
Abnormalities of placenta	9.9%	30.5%
Malposition	3.3%	2.8%
Toxemia	5.6%	12.1%
Failure of labor	2.8%	2.3%
Other	5.7%	16.1%*

\* (Includes 4% ruptured uterus.)

By gram weight, 93 (53 per cent) of all neonatal and fetal deaths were premature. Of these 15 (8 per cent) were pre-viable, less than 1,000 grams. No weights were recorded on 22 (12.7 per cent). By weeks of gestation, 97 (56 per cent) were less than 37 weeks and classifiable as premature. Using weight and weeks of gestation, between 53 and 57 per cent of all the infants who died were premature.

## CAUSE OF DEATH

Atelectasis & Anoxia	59
Congenital Defects	22
Prematurity only	32
Placenta Praevia	20
Toxaemia	7
Ruptured Uterus	8
RH	5
Diabetes	2
All other	18
<b>TOTAL</b>	<b>173</b>

## SURVIVAL

There is no query on the stillbirth certificate as to time of fetal death. Therefore, it is impossible to ascertain whether the infant died before labor or during birth. Unless a doctor happens to write in information, we cannot tell when death occurred. In one fetal death, mention was made that the fetus was macerated.

Of the neonatal deaths 24.8 per cent occurred within the first 12 hours, another 16.8 per cent died in the next 24 hours. Only 2 per cent survived the first week.

The conclusions from this survey must be drawn by the physicians and hospital staffs themselves. The discrepancies in the statistics can be corrected to a large extent by better reporting in birth certificates. The excessive rates can be lowered by staff organization and study. This Division is willing to furnish more detailed figures to any hospital group that wishes to have more complete studies.

## THE TREATMENT OF COMPLICATIONS OF FRACTURES OF THE NECK OF THE FEMUR

CARROLL B. LARSON, M.D.  
IOWA CITY

THE NUMERICALLY IMPORTANT and seriously disabling complications of hip fractures are non-union and aseptic necrosis occurring in intracapsular fractures. In extracapsular fractures, union ordinarily is prompt and non-union very rare, though

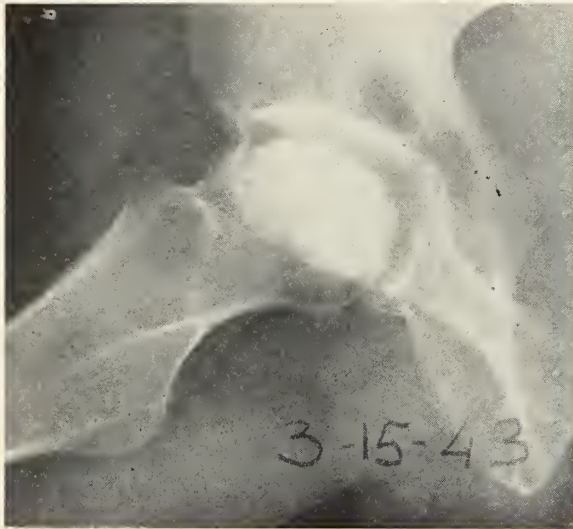


Figure 1. Large area of head is avascular and gives appearance of increased density.

not unheard of. Because of comminution, which is common in the latter fracture, adequate internal fixation is often difficult, and union sometimes occurs in a position of varus deformity.

In reference to intracapsular fractures, delayed union is difficult to define. Bone healing in the aged often is slow, and roentgenologic signs in this fracture are not so readily apparent as in most others. Though a period of even a year may elapse before certain evidence of union is recognizable, with favorable clinical signs and absence of x-ray signs of other issue, it usually may be assumed that union is progressing.

Femoral neck fracture fragments which are in grossly faulty position ordinarily do not unite.

Fifty years ago it was generally believed that

intracapsular fractures united only by fibrous union. Royal Whitman's methods of reduction and immobilization by plaster in abduction induced union in about half of the cases. Since introduction by Dr. Smith-Petersen of practical means of internal fixation, the incidence of non-union has been decreased, but remains distressingly high.

Two anatomical peculiarities of the fracture site—absence of a cambium layer to provide peripheral callus and a very vulnerable blood supply—predispose to non-union. Other factors are those which affect healing in other fracture sites: the presence or absence of impaction and the reduction and fixation achieved.

Interruption of the blood supply of the proximal fragment results in aseptic necrosis of the femoral head—the extent of the necrosis depending on the completeness of vascular disruption. According to our present understanding, such necrosis occurs at about the time of injury, and does not develop as a later consequence. Replacement of dead by living bone, through extension of blood vessels and bone cells either from the periphery of the proximal fragment or from the distal fragment when the fracture unites, can occur and does, at a very inconstant speed. The zone of such replacement is especially weak mechanically and liable to easy fracture.

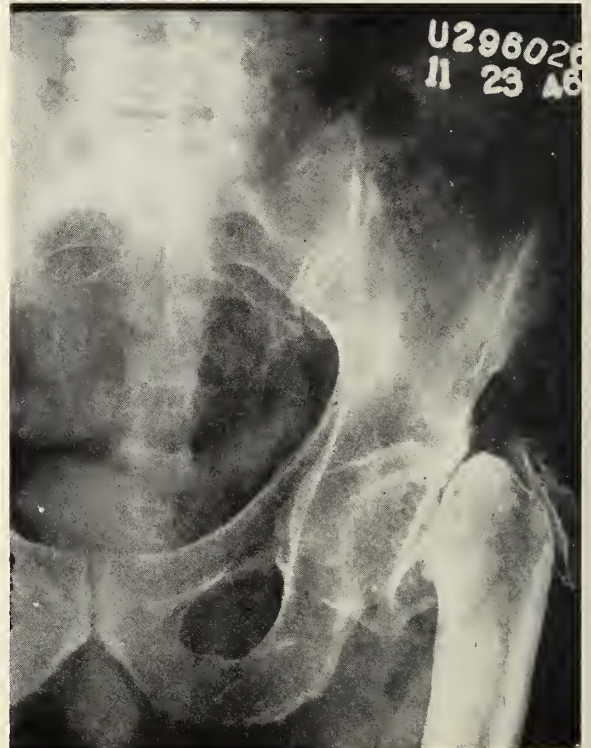


Figure 2. Brackett reconstruction still shows non-union.

Figure 1 will demonstrate a dense necrotic femoral head. The density becomes apparent only because the dead bone does not undergo the de-



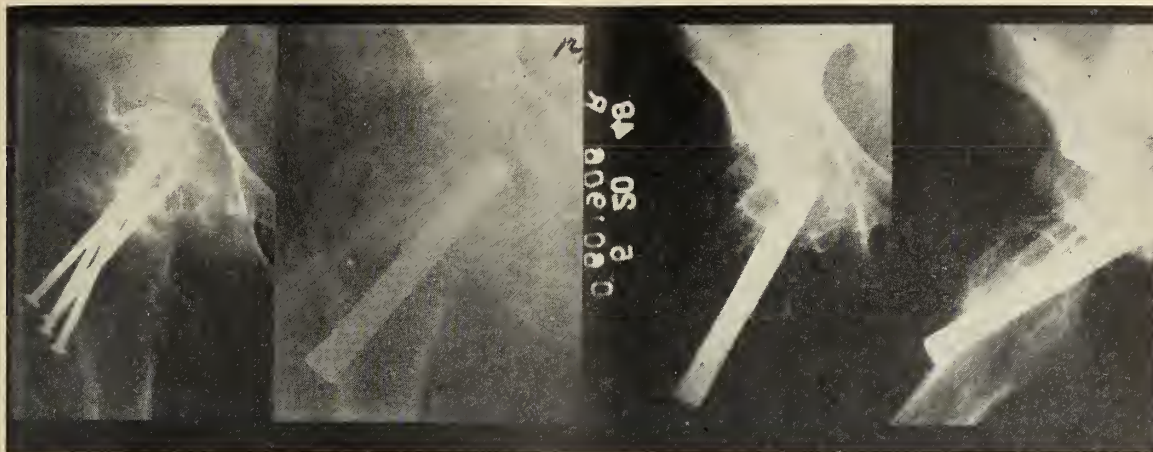


Figure 3. (a) non-union (b) graft and nail (c) union one year later.

calcification of disuse atrophy which affects the living bone about it.

This sign is by no means always so easily apparent. At best it appears late—8 to 12 weeks after fracture—and when internal fixation and union allow early activity and so reduce atrophy of living bone, density of a dead head may not become a clearly defined sign.

Necrosis of the head does not prevent fracture union. The study of one series of hip fractures recently indicated that union in the presence of a dead head occurred at least twice as frequently as non-union. When the femoral head dies, its cartilage covering dies with it, and undergoes degenerative changes.

Absorption of the neck of the femur in the distal fragment occurs in non-union independent of survival or death of the head; this is a frequent occurrence and influences strongly the treatment of the non-union.

Severe degenerative changes of the affected joint occur even after a fracture in which head necrosis does not result, and in which union is prompt much more frequently than in unfractured hips of similar age.

Several points should be emphasized which are important in determining the result of treatment of these complications.

1. Union of femoral neck fractures may occur when the head is dead.
2. X-ray evidence of head necrosis is slow in appearing and is not always clearly defined.
3. Joint cartilage of the head dies with bone.
4. Degenerative joint changes independent of head necrosis are frequent after fracture of the femoral neck.

A word about conservative treatment of these complications. Accurate reduction and fixation will make non-union less likely. Signs of union are slow to appear, and one should be careful rather to appreciate early signs of non-union. Once established, non-union requires surgery for its successful treatment, and delay allows only continuing time for absorption of the femoral neck.

So far as necrosis of the head in a fracture which unites is concerned, though its occurrence is determined probably wholly by the extent of injury sustained, preservation of head contour and joint surfaces may be influenced by treatment. The zone of replacement is very fragile, the cartilage is degenerate, and, in theory at least, protection from weight-bearing will spare the head and the joint. Practically, however, crutch walking even over a very long period will not insure their integrity.

These factors are of importance, not only because the choice of the method of treatment of these complications must depend in the first place upon what remains of the proximal femur for the surgeon to work with, but also because they may continue to affect the product of whatever surgery is done.

The post-operative treatment necessary for the various procedures, and the age and general physical status of the patient must follow in importance the requirements of the local circumstance of the hip. The patient's individual needs such as stability for work, or motion for convenience, and such others as economic factors often must give way to these imperative considerations.

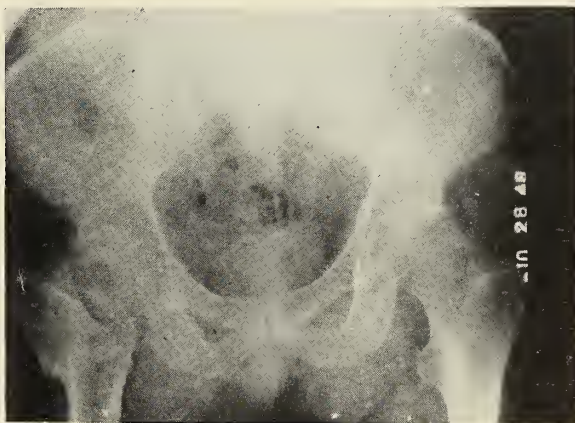


Figure 4. McMurray osteotomy. Union has occurred at osteotomy site, but fracture remains ununited.



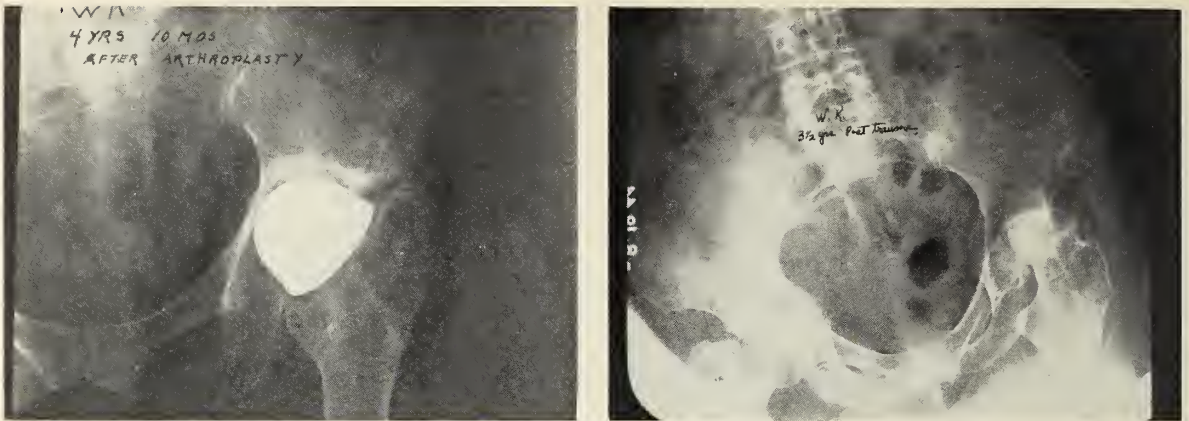


Figure 5. Routine mold orthoplasty, before and after.

Excepting arthrodesis, procedures which have been described can be divided into those designed to effect union and those designed for the creation of a new joint.

#### PROCEDURES TO EFFECT UNION

1. The Brackett operation, which consists of scooping out the head fragment, reshaping the neck, if long enough, or the trochanter to fit into it. (Fig. 2) When necessary, the attachment of the abductor muscles is transplanted distally. Post-operative treatment includes eight to ten weeks in a plaster spica. Its use is limited to cases in which the head's joint surface is well preserved; the post-operative immobilization and the possibilities of non-union and subsequent degeneration of the head fragment are disadvantages.

Dr. J. R. Moore has recently described a modification of the Brackett operation, differing only in more complete exenteration of the head fragment.

2. Osteosynthesis consists of attempts to induce union of the unaltered fragments remaining by introduction of bone grafts across the fracture site into the femoral head. (Fig. 3)

Very many elaborations of this procedure have been described, most of them employing metallic internal fixation along with the graft.

King has had a considerable experience with the method and, though advocating it, makes modest claims and stipulates very limiting requirements for its use:

- a. The patient must have good general prospects.
- b. Reduction must be possible.
- c. The head must be alive and the surface show no evidence of erosion.
- d. The neck must not be too short.
- e. The non-union should not be of longer than three months' duration.

Union is far from certain and degeneration of the head in the number that do unite is very frequent. King speaks of it as "not inevitable."

#### 3. Osteotomies:

The subtrochanteric or Schanz osteotomy depends upon the closer apposition of the fragments in weight-bearing by valgus created to induce union. Its limitations are obvious, and the method is rarely used alone today.

The intertrochanteric osteotomy, now often referred to as a McMurray osteotomy, by cutting across the intertrochanteric area and displacing the shaft medially under the head provides a wide base of cancellous, vascular bone to appose to the head, now tilted into valgus. The incidence of union is high and a stable joint is created. It re-



Figure 6. Mold orthoplasty with transplant of trochanter to give added length of neck.





Figure 7. Modified Colonna orthoplasty, before and after. Note the osteomatized acetabulum. These hips are weak, but painless and mobile.

quires a well preserved head and entails the distinct disadvantage of  $3\frac{1}{2}$  months immobilization in plaster. Many surgeons fail to agree with McMurry that motion and function are satisfactory after this procedure. (Fig. 4)

#### ARTHROPLASTIC PROCEDURES:

1. The Whitman operation has been used in cases in which the proximal fragment is discarded, the trochanter is transplanted distally with its attached muscles, and the neck is placed in the acetabulum.

The Colonna operation was devised for cases in which the neck as well as the head has degen-

erated, and consists of the discard of the head fragment, freeing the muscle attachments of the trochanters, reshaping the trochanter and placing it into the acetabulum. Abductor muscle tendons are sutured distally under a bone flap in the femoral shaft.

Whitman and Colonna both used plaster immobilization for four weeks post-operatively.

These procedures have served to reduce pain and to allow hip motion, but do not provide congruous joint surfaces and so must fail to perform the functions of a good joint.

2. Treatment by Vitallium Mold Arthroplasty consists in first creating a joint as nearly perfect

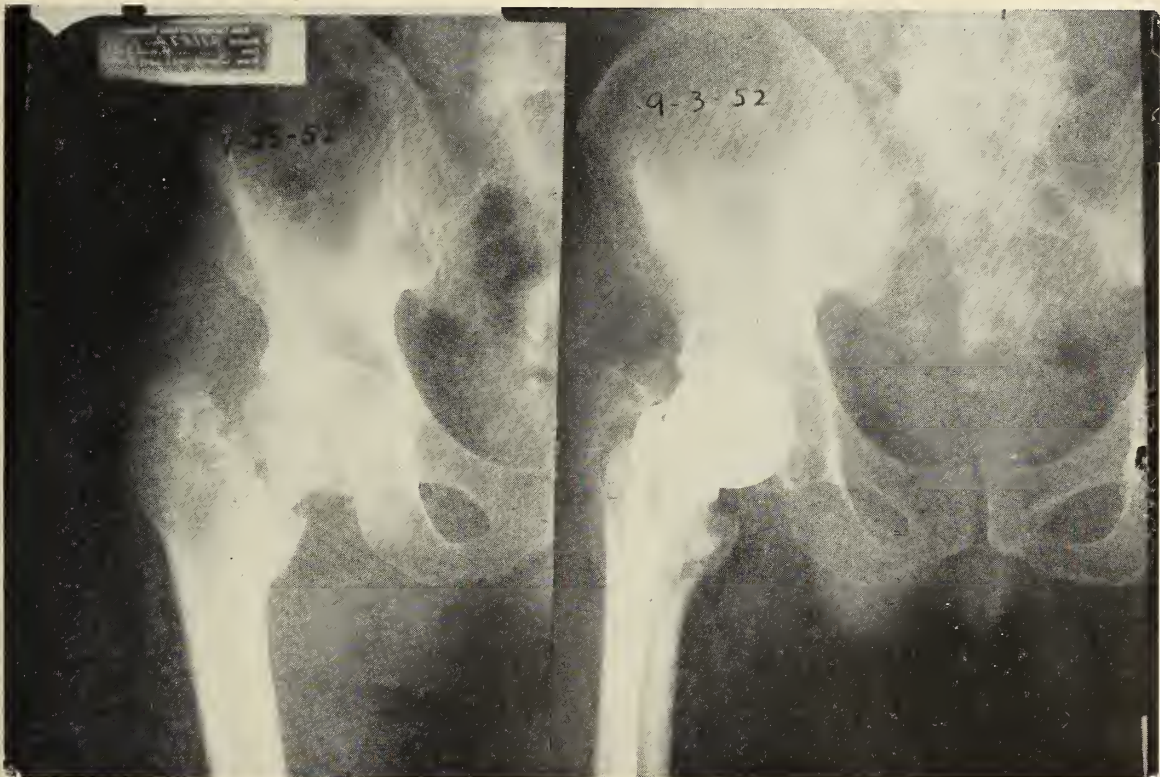


Figure 8. Substitution prosthesis, Moore type. This substitutes for short neck as well as entire head.



mechanically as possible and then guiding nature's repair by means of an inert mold, and carefully supervised exercises. In the treatment of these complications, four different types of arthroplasty have resulted.

A. A routine mold arthroplasty is indicated in degeneration of the head, limited in extent and occurring after union of the fractured neck. The head and acetabulum are reshaped to create congruous surfaces; the "crater" representing the necrotic area is excised down to bleeding bone and in cases of relatively extensive necrosis, the resulting defect is packed with cancellous bone from the iliac crest. The reshaped femoral head is covered with a vitallium mold and replaced in the acetabulum. (Fig. 5)

#### B. Modified Whitman Operation:

When the aseptic necrosis involves most of the head, even though the fracture has united, a modified Whitman reconstruction is indicated. The dead head is discarded, the remaining viable neck reshaped, covered with a vitallium mold and placed into the acetabulum. In the majority of cases, the neck is so short that osteotomy of the trochanter and transplantation to the subtrochanteric region are indicated. (Fig. 6)

C. In non-union with a dead head and more or less complete absorption of the neck, a "Modified Colonna" operation is indicated. This consists in creating a deep acetabulum and freeing all muscle attachments from the greater trochanter down to the infratrochanteric region. After the trochanter has been shaped with reamers, sacrificing a minimum of bone, the mold is applied and the greater trochanter introduced into acetabulum.

Occasionally, to extend the superior roof of the acetabulum for added stability, the anterior inferior spine is osteotomized vertically, its outer cortex is sprung laterally and bone grafts from the iliac crest are introduced into the cleft. Subperiosteal excision of the lesser trochanter may be necessary to prevent its impingement on the anterior lip of the cotyloid notch. (Fig. 7)

D. Intertrochanteric mold arthroplasty may be necessary in cases which have degenerative changes of the greater trochanter as well as the femoral neck. Shortening is troublesome in walking, though joint motion is freer.

Though at first it would appear that many procedures are available for treating these complications, for each individual case the choice is limited, and in most patients in the age group of frequent hip fractures, arthroplasty is most often indicated. The Colonna and Whitman operations are, to a large extent, makeshift procedures excused as simple operations.

That mold arthroplasty, done well, is not a shocking procedure is attested by the extremely low mortality in a very large group of cases including a majority of patients over 60 years old.

The post-operative course is remarkably comfortable and only splint suspension and light traction are required. Results are satisfactory to both the patient and surgeon in about 85 per cent of cases.

No discussion of reconstructive hip surgery is complete today without inclusion of substitution prosthesis. (Fig. 8) Since Judet first described the acrylic head substitute, there has been a tremendous surge in the application of the new principle. In three years there have appeared at least 26 varieties of substitution prosthesis for the head and neck of the femur. The enthusiasm has been occasioned by several factors, namely, that the operation is less difficult than other types of reconstruction and the convalescent period is shorter. The validity of the enthusiasm must rest on future results. The very elderly, poor-risk patient with non-union or aseptic necrosis following femoral neck fracture seems to be a justifiable candidate for a substitution prosthesis, particularly where there is reason to question the longevity of the patient. This latter qualification may be removed in time where the results of five to ten years are available. Until then, we should exercise care that we do not burn the bridges for other types of established reconstructive procedures that have been time tested.

#### BIBLIOGRAPHY

1. Report of the Fracture Committee of the American Academy of Orthopedic Surgeons: Treatment of Fractures of the Neck of the Femur by Internal Fixation. J. B. & J. S., 21:483-6 (April) 1939.
2. Albee, F. H.: Treatment of Ununited Fractures of the Neck of the Femur. S. G. O., 49:810-17 (December) 1939.
3. Boyd, H. B., and George, I. L.: Complications of Fractures of the Neck of the Femur. J. B. & J. S., 29:13-8 (January) 1947.
4. Brackett, E. G.: Treatment of Old Ununited Fractures of the Neck of the Femur. Boston Med. & Surg. J., 177:351-3 (September 13) 1917.
5. Colonna, P. C.: A New Type of Reconstruction Operation for Old Ununited Fractures of the Neck of the Femur. J. B. & J. S., 17:110-22 (January) 1935.
6. King, T.: Closed Operation for Intracapsular Fractures of the Neck of the Femur. Brit. Journal of Surg., 26:721-48 (April) 1939.
7. McMurray, T. P.: Ununited Fractures of the Neck of the Femur. J. B. & J. S., 18:319-27 (April) 1936.
8. Moore, J. R.: Fractures of the Upper End of the Femur. Am. J. Surg., 44:117-34 (April) 1939.
9. Moore, J. R.: Cartilaginous-cup Arthroplasty in Ununited Fractures of the Neck of the Femur. J. B. & J. S., 30A:318-28 (April) 1948.
10. Smith-Petersen, M. N., Larson, C. B., Aufranc, O. E., and Law, W. A.: Complications of Old Fractures of the Neck of the Femur; Results of Treatment by Vitallium-mold Arthroplasty. J. B. & J. S., 29:41-5 (January) 1947.
11. Whitman, R. A.: The Reconstruction Operations for Ununited Fractures of the Neck of the Femur. S. G. O., 32:479-86 (June) 1921.

#### WINS ART AWARD

The Helser Cup, the first prize in the art exhibit at the 1953 AMA meeting, was won by Dr. Jeanette Dean-Throckmorton, librarian of the Iowa State Medical Library. In making the presentation, Dr. F. H. Redewill, secretary of the American Physicians' Art Association, said that her entry, a quilt of original design in which iris and rose-breasted grosbeaks appear, was not only the most popular one but also the finest piece of art in the show.



## NURSING IN IOWA

MYRTLE E. KITCHELL, R.N., M.A.\*  
IOWA CITY

RECENTLY THE BOARDS of Trustees of the American Medical Association, the American Hospital Association, and the Boards of Directors of the American Nurses' Association and the National League for Nursing, endorsed a report titled "Analysis of Nursing Problems" prepared by the Joint Commission for the Improvement of the Care of the Patient. The endorsement of the report is significant, for although the commission is not executive, its agreement on concept and endorsement by the boards set a way for co-operative action that has not always been possible.

To translate or identify these concepts at the state level is difficult, especially in Iowa, where no committee machinery has been set up between the four professional state organizations. Rather, the cooperation has been on invitation, with polite and cordial audience, and although the nursing profession has made definite progress toward the solution of its problems, the communication between groups, especially at the practitioner level, has been so poor that many physicians are unaware of the problems, to say nothing of the movement being made toward their solution.

Four urgent areas were identified by the Joint Commission as needing immediate action; these were (1) the securing of well-prepared nurses for faculty of schools and for administration and supervisory services; (2) effective in-service education to improve workers on the job; (3) the securing of more practical nurses, properly prepared; and (4) experimentation in nursing curriculums.<sup>1</sup> These needs appear directed at a four-point program: (1) a greater supply of nursing personnel; (2) better-prepared personnel for nursing services; (3) better utilization of nursing power; and (4) better distribution through reduction of turnover.

During the last three years, attempts have been made in Iowa to bring about improvement in three of the four areas. The need for at least one pilot school of practical nursing under adult education was recognized three years ago. A committee representing nursing, vocational education, physicians, and hospital administrators has worked toward the development of such a program. As a result of this effort, a program at Des Moines will get underway as soon as a director can be found. One school was already in existence at Marshalltown. Recently a program was begun at the State University of Iowa. Lack of funds, lack of faculty, lack of applicants and lack of understanding and public support of Practical Nursing Education are obstacles blocking future development.

Acceptance of the trained practical nurse by many professional nurses is a real obstacle. Rec-

ognition of their value and the need for adequate training have been questioned and have made interpretation difficult. It is believed that by means of workshop conferences and personal contact, as well as by mass communication techniques such as radio and press, more individuals can be interested in this vocation. The Iowa Hospital Association and the Iowa Nurses' Association held three regional conferences in January, 1953, for the purpose of clarifying the functions and use of the practical nurse. These two groups are continuing to work with the Iowa Practical Nurse Association in order to bring about better understanding. A three-day conference sponsored by the State University of Iowa College of Nursing and the State Board of Nurse Examiners was held in March to assist in better understanding of the problems attendant upon the establishment of Practical Nursing Education. Need for establishment of schools, resources available for assistance in this establishment, and realization of precautions which must be taken, were carefully reviewed.

Several district nurses associations are cooperating by offering courses designed to improve the practice of the practical nurse who became licensed by waiver.

The problem of preparing administration and supervisory personnel and faculty has also been attacked. In 1951, the W. K. Kellogg Foundation made a grant available to the University of Iowa in order to assist in the preparation of nurses for supervisory and administrative services. Since that time, the College has offered three-day workshops of a continuing nature to directors of nursing services, on-the-job. These conferences have been centered on subjects such as the use of problem-solving, in-service education programs, staffing and policy-making, work-simplification and job analysis. A full-time, organized course in nursing-service administration is being offered for the second year. Experimentation in a course, one month in length, "A Study of Head Nursing Problems," has just been completed and has been highly successful. It will be offered three times a year: April, October and February. The course is designed for the nurse who is on the job and cannot be absent for more than four weeks, and carries college credit applicable toward the bachelor's degree.

The Iowa State Nurses' Association, recognizing the needs of head nurses, is sponsoring a two-day conference for this group in April, 1953.

Nursing leaders have been aware of the great need of encouraging graduates of diploma programs, who have demonstrated ability, to go into courses designed to supplement their basic nursing, for this is the group that will be drawn upon to provide head nurses, nursing supervisors, and faculty. The development of adequate teaching staffs for schools of nursing is a matter of much concern. In 1950 many important teaching positions were unfilled; it was estimated that a total

\* Dean, College of Nursing, State University of Iowa.

of 12,500 instructors were needed in the United States, but fewer than 5,300 were employed. Almost half of the instructors in schools of nursing hold no academic degree; approximately 50 per cent have bachelor's degrees and about 10 per cent have master's degrees.<sup>2</sup> In Iowa, the Survey of Iowa Resources and Needs, in 1951, which included study of preparation, length of employment, resignation and turnover of faculty and supervisory personnel, revealed a disturbingly high turnover and a lack of prepared personnel.<sup>3</sup> Only 194 of the 2,277 students in schools of basic nursing in Iowa in January, 1952, were enrolled in collegiate programs.<sup>4</sup> This number was increased to 233 in 1953, and 30 graduate nurses are in the baccalaureate programs at the State University of Iowa. This 10 per cent reserve for future faculty and administrative personnel is far below the 25 per cent of the national nurse pool which should have at least a baccalaureate degree if employer demands for nurses with this type of preparation are to be met. But the recognition of the need for prepared faculty and administrative personnel is basic to the improvement of basic nursing and practical-nurse education. So far that need has not been widely enough felt.

The number of students enrolled in basic professional nursing in Iowa has been maintained in spite of smaller numbers of high school graduates. It is unfortunate, but very significant, that 27 per cent of the student nurses in all schools, who gave their residence as Iowa, were enrolled in other states.<sup>5</sup> One deduction from this fact could be that students and their parents are convinced that better education can be secured elsewhere. There is a ratio of 7 student nurses per 10,000 population in Iowa.<sup>6</sup> This is higher than the 6.8 national ratio and considerably higher than the West-North Central ratio of 3.5. The state withdrawal rate for 1946-1949 averaged 23.0 per cent, compared with a national average withdrawal of 31 per cent. These figures provide some reassuring comparisons, but the underlying fact remains that 10 percent of high school graduates are needed in our nursing services to meet nursing demands, and withdrawal rates should be as low as possible. The fact that 26.4 per cent of the withdrawals from Iowa Schools result from failure in class work raises serious questions as to methods of selection, quality and level of instruction, balance of class load, and counselling. The fact that 16.1 per cent of withdrawals in Iowa gave dissatisfaction with nursing as the reason gives pause for serious thought. Is this dissatisfaction traceable to the rigidities in the nursing school, to the pressures of the curriculum, to the over-glamorizing of the recruitment or to the discrimination practiced against the student and the nurse by others in the hospital situation? It is facts that confront us, and we must face them. The role of young women in our society is fluid; there is a tight labor market in which the services of young women are sought; and women are no longer

faced with the necessity of accepting a subservient and unrecognized role. If a girl feels rejected, she will seek other service roles where she can derive the same satisfaction in service, but more acceptance.

Recruitment of students for nursing schools has been encouraged by the professional organizations. Pamphlet materials and speakers have been available through the Iowa State Nurses' Association. Schools have carried on their own programs of recruitment, working primarily with local groups, high schools and colleges. Nursing representatives participate in the Career Days held by high schools, to which other groups have been invited. The procedure has been to provide information of a general nature about the profession. Medical auxiliaries, school nurses and public health nurses have provided real leadership in establishing Future Nurses' Clubs, and similar organizations. One small hospital has made an unusual contribution by offering a pre-nursing institute to which high school students are invited and taught a few very elementary nursing procedures. Speakers from nearby schools of nursing are invited to meet with the students and their parents, and the discussions and films provide real stimulation and students for nursing are recruited from this source.

Many schools in Iowa have made attempts to improve and strengthen their educational programs in order to meet the need for nurses. Nearly all schools are purchasing basic science instruction from junior colleges or colleges. All students are now having experience in the care of mentally ill patients. Senior students in the degree program at the State University of Iowa College of Nursing are now enjoying public health nursing field practice with the aim of preparing them to meet the need for public health nurses in Iowa, where 36 vacancies exist in the position of county public health nurse alone, besides a number of vacancies in visiting nurse agencies and schools.<sup>7</sup>

Although improvement has been made, there has been no experimentation in curriculum construction of a spectacular nature. The pattern of diploma programs continues much as it always has been. The problems attendant upon securing faculty and supervisory personnel have been so pressing that little time has been available for curricular changes and creative approach to reorganization.

A few hospitals report studies of nursing service, attitudes of graduate nurse groups, reorganization and new approach to nursing care. No systematized survey of aide education has been made. The University Hospitals, College of Engineering and College of Nursing at the State University of Iowa are approaching cooperatively the study of nursing service functions and utilization of personnel through a work-sampling technique, involving special methods of study used in industry. It is too early to report findings, but, at least,



facts are being collected which will serve as a basis for allocation of functions. A preliminary study, primarily directed at perfecting research methods, demonstrates fairly well the need to relieve the nurse of certain clerical and house-keeping duties in order to permit her time to do the job for which she is prepared—nursing the patient. Similar studies are being conducted in hospitals throughout the country and can be used as a basis for change. A great deal of research in nursing service and nursing practice needs to be carried out to solve the problems which are present.

This brief review of present nursing developments call attention to the assistance which can be forthcoming from Iowa physicians.

First, the physician should inform himself and give serious thought to the changes occurring in our culture, especially those relating to women. There is competition for the services of women in the labor market. Women are free to choose the vocation or profession in which they wish to engage, and the enlightened young high school graduate will choose that field which not only provides satisfaction from service, but which will give her reasonable compensation, democratic treatment, status, and an opportunity to perform as an intelligent person.

There is a trend in our society toward the employment of married women. Since many physicians are critical of the marriage rate among students and graduates in nursing, it is well to point out that marriage is no necessary deterrent in nursing. In 1951, of the 5,587 active nurses in Iowa, 48.9 per cent were married, 4.4 per cent widowed, and 3.5 per cent divorced or separated, a total of 56.8 per cent. Among the country's 334,733 active nurses, 46.5 per cent were married, 4.9 per cent widowed, and 4.8 per cent divorced or separated.<sup>8</sup> One of the problems facing nursing is stimulating the return of married nurses to active practice after their families have been well-established and their children are older.

Second, the physician can encourage the development of a structure similar to that which exists at the national level, a joint commission for the improvement of the care of the patient. Communication has not been easy. Each professional group has been going on its own way, without recognizing its own contribution to the problem as well as to its solution.

Third, in recruitment physicians can assist in the establishment of a statewide program involving all professional and lay groups, and conducted by a committee on Careers in Nursing, broadly representative of these interests. Recruitment needs to be directed at all nursing personnel—aides, orderlies, practical nurse students, basic professional students and graduate nurses.

Fourth, physicians can assist in the study of the problem facing nursing services. The whole area of human relations needs deep and wide exploration. Turnover of personnel, apathy, resistance to changes and failure in acceptance of responsi-

bility are symptoms that something is wrong in our hospitals. Since all groups contribute to the underlying causes of these difficulties, all groups should be involved in the exploration. Our hospital nursing services should provide the opportunity for individuals to give freely of themselves and to enjoy that expression. What has given rise to the high withdrawal rates of students, resignations of non-professional and professional nursing personnel, and reluctance on the part of married nurses to return after being inactive for a few years?

Fifth, physicians can assist in the establishment of progressive educational programs in nursing. Sound financing is a real problem. In many schools, the hospitalized patient, through hospital costs, pays for nursing education. Is it justifiable to ask this segment of the public to support the costs of nursing education, or should some other sources be provided? Are nursing schools being conducted economically, or are there ways by which more economy can be introduced? Are physicians discouraging young graduates from preparing for faculty and administrative positions through their primary concern with nursing at the bedside and their failure to recognize that prepared personnel are needed for education of students and management of service?

These are five areas for constructive participation by physicians. These suggestions for action are directed at the four-point program mentioned earlier: (1) greater supply of nursing personnel, (2) better-prepared personnel, (3) better utilization and (4) better distribution. The time has come for cooperative action and strong support in a forward looking program. The time is long overdue!

#### BIBLIOGRAPHY

1. "The Joint Commission Recommends"—*American Journal of Nursing* 53:3:308-10, March, 1953.
2. Petry, Lucile, and Vreeland, Ellwynne, M., "Nursing Education"—*Higher Education* 8:16:181-186, April 15, 1952.
3. *Iowa Survey of Nursing Needs and Resources*. Report of the Technical Sub-Committee on Nursing Education. 1951. Page 7-12.
4. "Student Enrollment 1952"—*American Journal of Nursing*. 52:10:1255-6, October, 1952.
5. *Facts About Nursing*—American Nurses Association. 1952, p. 53.
6. Statistics in paragraph taken from *Iowa Survey of Nursing Needs and Resources* Op. cit. pp. 27-32.
7. Personal correspondence—Director, State Department of Public Health Nursing.
8. *Inventory of Personal Registered Nurses*. American Nurses Association, Inc. 1951, p. 13.

#### VOICE PATHOLOGY INSTITUTE

An institute, the second of its kind, on teaching and improving esophageal speech will be held at the Cleveland Hearing and Speech Center, August 10-16, 1953. Surgeons, speech pathologists and laymen are invited, and non-speaking laryngectomized persons can attend without charge. Applications must be mailed by July 15 to Warren H. Gardner, Ph.D., 11206 Euclid Avenue, Cleveland 6, Ohio.

## AN UNUSUAL TWIN PREGNANCY

H. LLOYD MILLER, M.D.

CEDAR RAPIDS

THE MORE ONE observes the workings of the reproductive organs, the more one marvels at the persistently penetrating powers of the spermatozoon and the cunning, and at times unbelievable maneuverings, of the ovum to place herself in a position to accommodate the sperm in accomplishing its end desires.

In going back in the literature to the year 1890, I find there has not been a case of double ovum twins reported which come from a small piece of one ovary.

There is a case of full-term twins reported in 1896<sup>1</sup> following removal of both ovaries early in pregnancy. In this case, however, the uterus was obviously pregnant at the time of surgery.

Another case reported in 1902<sup>2</sup> by J. F. Baldwin states that bilateral ovarian cysts were removed during pregnancy. The surgery included removal of both ovaries, he states. Yet, this patient carried the pregnancy full term, and in later years delivered two full-term pregnancies.

Dr. R. S. Sutton<sup>3</sup> reported another case in 1896 in which bilateral multilocular ovarian cysts were removed in 1892. Two years later the woman had a 10½ pound baby and in 1896 another child.

The description of this operation does not state whether both ovaries were removed entirely, but this idea is implied in the article.

There are a few other similar cases reported in the literature.<sup>4, 5, 7</sup>

Also there are many cases on record where one tube and the opposite ovary have been removed, and in this condition pregnancy occurred.<sup>8</sup>

Edgar Allen et al have reported a case of internal migration.<sup>9</sup>

All of the cases are of particular interest because they show the practically impossible conditions under which a woman may become pregnant or carry pregnancies.

These case reports keep reminding us that it is always important to use marked conservatism in pelvic surgery in young women who desire or may desire to have children.

The case report which follows is similar to some of the others, but in addition has the added interesting factor of double-ovum twins from a remaining piece of only one ovary.

Mrs. M. B. was married in February, 1947, at the age of 31. There were no pregnancies until February, 1949. At this time she had an ectopic pregnancy which was removed following continued bleeding after a D & C. The surgeon's operative report is as follows: A mass in the right adnexa containing the entire right ovary and tube was removed. A cystic portion of the left ovary was removed.

The pathologist's report of the tissue removed at the time of this surgery contained the following

information: The right tube and ovary form a mass measuring 3x4x6 cm. and the tube is considerably dilated in the distal end and appears ruptured. The ovary consists of a cystic mass measuring 3 to 4 cm. in diameter which contains a small amount of clotted blood. The portion of the left ovary measures 3 cm. in diameter, and has a large cyst filled with clear fluid.

The microscopic examination revealed chorionic villi in the tube and a corpus luteum cyst of the left ovary.

The patient recovered uneventfully from the surgery and again became pregnant in July, 1949. She began to have uterine bleeding in September and miscarried in her third month of pregnancy.

In 1950 she again became pregnant and threatened to miscarry. Bed rest and progesterone were prescribed, and a normal full-term pregnancy was delivered in December, 1950.

Four months later this patient again became pregnant, and in January, 1952, she delivered full term twins—a boy and a girl—both of whom were normal.

## COMMENTS AND SUMMARY

1. The case is presented because of the absence of any other such case in the literature.

2. It should encourage surgeons who treat the pelvic organs with respect and conservatism.

3. Although this is not a point as far as medical knowledge is concerned, this case can help dispel the layman's common misconception that each ovary produces only one sex.

4. This case illustrates beautifully how a small portion of one ovary can take over the function of two full-size normal ovaries. First, following the ectopic pregnancy and surgery, there was an abortion early in pregnancy. Second there was a full term pregnancy which threatened to abort in the early stages, and finally the double-ovum twins.

## BIBLIOGRAPHY

1. Sutton, R. Stansbury: Double Ovarectomy Followed by Pregnancy; And Double Ovarectomy during Pregnancy Followed by the Birth of Twins at Term. *Medical Record*, 50:643, (Oct. 31) 1896.
2. Baldwin, J. F.: Pregnancy after the Removal of Both Ovaries. *Am. J. Obstetrics*, 46:835-7, (Dec.) 1902.
3. Sutton, R. Stansbury: Cases of Double Ovariectomy Followed by Pregnancy and Delivery at Term. *Am. J. Obstetrics*, 34:92, (July) 1896.
4. Smith, A. L.: *Ibid.*, pp. 92-93.
5. Scott, W. A.: Pregnancy After Removal of Both Ovaries. *Am. J. Obstetrics & Gynecology*, 32:1067, (Dec.) 1936.
7. Morris, M. A.: Pregnancy Following Removal of Both Ovaries and Tubes. *Boston Med. J.*, 144:86-7, (Jan. 24) 1901.
8. Kelly: *Operative Gynecology*, Vol. II, p. 188 (Appleton, New York, 1898).
9. Allen, E., Pratt, J. P., Newell, Q. U., and Bland, L.: Recovery of Human Ova from the Uterine Tubes. *J.A.M.A.*, 91:1018-20, (Oct. 6) 1928.

## AMERICAN COUNTRY LIFE CONFERENCE

Iowa is to be host to the 1953 Conference of the American Country Life Association. A later issue of the JOURNAL will carry the program of the meetings, which are to be held at Iowa State College, Ames, October 6, 7, and 8.



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
 RANSOM D. BERNARD, M.D., Business Manager....Des Moines  
 MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
 ALLAN G. FELTER, M.D.....Van Meter  
 DANIEL A. GLOMSET, M.D.....Des Moines  
 TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
 JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
 WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
 ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
 EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
 529-36th Street, Des Moines 12

Vol. XLIII

JULY, 1953

No. 7

## OFFICIAL ISSUE

This issue of the JOURNAL contains the current roster of members. It is recommended that you keep this issue available as a reference book in which to find the names and addresses of the other members of the State Society. This year the official minutes of the April annual meeting have been condensed to make it possible for you to review the transactions of the House of Delegates more readily than before. As you read these reports, perhaps you will join us in appreciating the immense amount of work that your officers have done.

The editors wish to call to your attention two of the articles that are published in this issue. On page 269 is an excellent résumé of the annual meeting of the American Medical Association, held in New York City during the first week in June. The elegiac paper that begins on page 251 reminds us of Mark Twain's remark, when a notice of his own death had been circulated through the country, that the report was greatly exaggerated. It is precisely because the clinician's set of values and the author of the paper, who is himself a prominent exponent of them, are both very much alive that "The Clinician—An Obituary" will appeal to the older members of the Society and to their younger colleagues as well.

## NURSING IN IOWA

Recruitment for the nursing services continues to be a real problem, not only in Iowa but throughout the United States. This year your State Soci-

ety has a special committee which will endeavor to find answers to many of the questions which have arisen. In that work it is cooperating with the Joint Commission for the Improvement of the Care of Patients, which is composed of representatives of the American Medical Association, the American Hospital Association, the American Nurses' Association and the National League for Nursing. The Society's objective, like that of the Joint Commission, is to assure full enrollment in schools in practical nursing, in diploma courses for registered nurses and in collegiate schools.

Members of the medical profession as individuals can give great assistance in this work. They are in a unique position to present the advantages of a career in nursing to young women in the families that they serve. Often no more than a word or two of encouragement from their physician is enough to persuade girls to enter a lifetime of helping people when they most need help.

The doctor can point out to them that nursing offers a variety of opportunities: in the home town, in the large city, in hospitals, in public health agencies, in industries, in doctors' offices, and in schools. And he can describe the many specialized fields of nursing: pediatric, institutional, industrial, orthopedic, psychiatric and surgical. He can call attention to the fact that a diploma in nursing need not be the girl's final goal, that she may undertake further study in the field of physiotherapy and occupational therapy, both of which offer much in the way of the satisfactions of service and of material rewards.

If we are to continue to see that our patients obtain good nursing care, it is certainly our duty to do our share in recommending nursing as a career.

## THE ROOMING-IN PLAN FOR MOTHER AND BABY

The last half century has seen almost a complete reversal as regards the birthplace of the American baby. At the turn of the century, few babies were born in hospitals; today, few are born elsewhere. With this change, humanity has gained much. Improvement in facilities, better obstetrical training and closer observation have resulted in the lowering of maternal mortality and in the saving of more babies.

However these gains have not been unaccompanied by some very real and very vital losses. These losses affect not only the mother and the babe but society as a whole, both financially and psychologically. Our present-day standards of hospital care leave much to be desired.

In the first place, no woman is a 100 percent mother who has not both borne and successfully breast-fed her child. That child has had all it needed during nine months of intrauterine life, but now, in altogether too many instances, it is snatched away the minute it is born and is separated from its mother, who could and should con-

tinue to minister to its needs. In no hospital that I know of is the normal course of things permitted to occur as nature intended. The new-born babe will never start nursing more readily than in the first hour following its birth. And if it is put to the breast, the mother's uterus contracts and normal involution is hastened. Only once in over thirty years of practice have I seen prolonged and repeated post-partum hemorrhage, and then it was in a mother who did not want to nurse her baby. After administering oxytocics and finally transfusions until both the patient's arms were black and she rebelled, I remarked that if the baby had been nursing every three hours this would not have happened. Thereupon, the mother consented to try nursing her baby, and the picture changed promptly. It is rare that one finds in any hospital today the intelligent and patient cooperation of nurses and doctors that is essential to the job of getting mother and babe off to a good start, confident and sure of each other.

Barring gross anatomical defects, any mother should be able to nurse her child. Breast feeding affords a considerable immunity to human ills. Impetigo and infantile diarrhea are seldom seen in breast-fed babies, and especially seldom in those who are kept in the room with the mother. Even polio is less prevalent among breast-fed babies. The blood serum of breast-fed babies can kill more bacteria than that of bottle-fed babies. Social activities or the demands of twentieth-century living may so affect the mother's nervous system as to make continued breast feeding impractical in many instances. However half of the success of breast feeding is dependent on frequent and satisfactory nursings during the first three days after delivery. In our present-day routine, the obstetrician delivers the baby and turns it over to a pediatrician. The pediatrician is not well acquainted with the mother and does not become so. The condition of her breasts and the feedings are not supervised. Neither accoucheur nor pediatrician has trained or caused to be trained nurses who know how to get the baby to nurse and can show the mother the little tricks of successful nursing. A half-century ago the baby who was born in the home and who fed at the breast before the doctor left seldom caused serious difficulty about getting started nursing later. And how much more comfortable the mother's breasts were!

A well known psychiatrist recently stated that mental prophylaxis starts at birth. And he went on to say that the prompt separation of the mother and babe is a first step in the wrong direction, for it initiates selfconsciousness in the child. The baby can't get what it wants when it wants it. This, he feels, could largely be prevented by the rooming-in method of maternal and infant care.

If the mother and infant were in the same room, the mother could care for her baby with little help and little or no harm to herself. The baby would probably nurse at about 2 to 3 hour intervals the first day, at 3 to 4 hour intervals the sec-

ond and third day, and at about the same frequency thereafter. Cuddled and cared for by its mother, it would be safe from disease contacts. It would live a peaceful and serene life, and though several mothers might be in the same ward, it is agreed that the crying of another mother's baby seldom bothers a mother much. Nursing service would be cut so that a maternity department could be successfully operated with less personnel.

The new mother leaving the hospital where she has enjoyed the rooming-in plan has maintained an acquaintance and personal contact with her baby and goes home confident that she will and can continue to supply its needs as she has done from the inception of pregnancy. The new mother, on the other hand, who has not had the advantages of maintaining contact with her baby goes home with fear and trembling—and a bottle of formula. Her breasts, in most cases, have been neglected, and her fears and worries about her new responsibilities further tend to lessen the possibility of her establishing and maintaining satisfactory lactation.

It is to be hoped that, for the sake of the physical and psychological welfare of both mother and child and for the financial and social welfare of our communities, more of our hospitals will soon make available the rooming-in plan.

A. G. FELTER, M.D.

## THE EDUCATIONAL FUND

The doctors of medicine who compose the Iowa Medical Society are offered their choice of three ways of assisting medical students who are in danger of having to quit school because of lack of money. They may give a lump sum outright; they may pledge yearly contributions; or they may lend to the Society's Educational Fund.

On money that members of the Society or other citizens lend for this purpose, the Educational Fund undertakes to pay four percent interest, thus withholding for expenses no more than one percent of the five percent that is collected from the borrowers. Accumulated interest is payable to the lenders ten years from the date of the loans, but may be paid sooner if circumstances permit.

Because ability to pay for education at the time that it is received doesn't always go along with greatest ability to learn, the good of medicine and the public interest generally are served by any scheme designed to remove the stumbling-block of expense from the student's path. The Educational Fund is the finest possible way of removing it, for it enables the student to finish his training without accepting gifts—particularly gifts from the government which would make him a part of socialized medicine.

Commercial banks are unable to make loans to most medical students because the law requires that they lend only upon collateral of types that the young men can't offer. But from the physician's point of view, the Educational Fund's loans



are nonetheless well secured. The student fills out his application and presents it to the Dean of the Medical School, Mr. Ben S. Summerwill, President of the Iowa State Bank and Trust Company, Iowa City, and Dr. George H. Scanlon. That sub-committee, if it approves the application, recommends it to the full committee, which consists of the president and the chairman of the Board of Trustees of the Society, in addition to the men already named. If the student to whom a loan is to be made has no collateral other than his unblemished reputation and his good prospects in the practice of medicine, the Fund protects itself against his untimely death by requiring that he take out a term insurance policy in the amount of his loan, naming the Fund as beneficiary. The student is required to promise that he will engage in general practice for a minimum of three years and that he will begin repaying the accumulated interest and the principal of his loan not later than the start of his third year as a general practitioner.

The editors of the JOURNAL urge that every doctor give serious consideration to this worthy project, the sooner the better.

## HIGHLIGHTS OF THE 102nd ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION

New York City—June 1-5, 1953

The House of Delegates of the American Medical Association convened at 10:00 a.m. Monday, June 1. One hundred eighty-two delegates were seated for the sessions of the House. The first order of business was the election of the physician to receive the 1953 Distinguished Service Award. Three names were submitted by the Board of Trustees of the AMA for consideration by the House of Delegates.

Dr. Alfred Blalock, Baltimore, Maryland, was selected on the first ballot—receiving 114 of a total 166 votes cast. The other physicians considered for the award were Dr. Torald H. Sollman, Cleveland Heights, Ohio—38 votes, and Dr. Joseph H. Pratt, Boston, Massachusetts—14 votes.

Dr. Blalock received a citation and gold medal for his outstanding work in vascular surgery, particularly for his work in the development of the so-called "blue baby" operation. Dr. Blalock was born at Culloden, Georgia, April 5, 1899, and received his M.D. degree from Johns Hopkins Medical School, Baltimore, 1922. He has been chief surgeon at Johns Hopkins Hospital since 1940, professor of surgery at Johns Hopkins Hospital since 1940 and professor of surgery at Johns Hopkins University School of Medicine since 1930.

During the first session speeches were delivered by the Speaker of the House of Delegates, President, and President-elect.

Dr. James R. Rueling of Bayside, N. Y., Speaker, outlined procedures for conducting the business of the House of Delegates and acquainted

the delegates with the geography of New York City. He gave a colorful description of the five boroughs which comprise New York City—Manhattan, Kings, Queens, Bronx, and Richard (Stat- en Island).

Dr. Louis H. Bauer, Hempstead, N. Y., retiring president of the American Medical Association, made a strong appeal to critics of medicine not to consider the entire medical profession bad because of a few bad actors and at the same time urged county medical societies to take in hand those physicians who insist on violating the principles of medical ethics.

In his farewell address Dr. Bauer conceded the existence of unethical practices among some doctors with the following statement: "Much has been said in various quarters about excessive fees, fee splitting and ghost surgery, and while I would not belittle these evils, it is unfortunate that the impression has reached the public that these things are common among the profession. They do exist and they must be stamped out, but the vast majority of members of the medical profession are honest and above reproach in their financial relations with the public. The whole profession should not be tarred with the same stick which should be applied to a few."

It is his belief that the evils which now exist in organized medicine can be eliminated by effective mediation or grievance committees and requested the delegates to see to it that the respective mediation or grievance committees were not merely whitewashing agencies.

He favors indoctrination courses for young physicians in order that they may become more familiar with medicine's organization and the principles of medical ethics. Dr. Bauer asked for increased activity of this type in the various state and county associations. In closing, Dr. Bauer said, "We must work to close gaps in medicine during the period of a favorable administration by bringing to all Americans the best possible medical care." The retiring president urges voluntary health insurance companies to give added consideration to the care of persons over age 65 and to give attention to the care of long term illnesses and chronic diseases, and to make provision for the medically indigent.

Dr. Edward J. McCormick, of Toledo, Ohio, the incoming President of the American Medical Association, outlined a nine-point medical care program before the House of Delegates. His plan is geared to improve the nation's medical care. Dr. McCormick admitted that his ideas were not new but said he believes their further development will solve many of medicine's problems and eliminate much of the criticism to which the medical profession is subjected.

This is the plan he announced:

1. "Placement services are now in existence in 37 states. Of these, 32 are operated by medical societies. It is important to the future of medicine that every community have access to a physician.

Medicine must actively aid those communities which are trying to attract doctors by building modern facilities for them."

2. "Over 600 of our county medical societies now have 24-hour emergency call services. I urge all others to support such a system."

3. "Every medical society must have a strong and fearless mediation committee to hear patients' complaints. These must not be whitewash committees."

4. "Physician-hospital relationships must be clarified and steps taken toward mutual cooperation. I advise the formation of physician-hospital committees by state and county medical societies to work toward better relations in local communities."

5. "Every county society should become an active unit in the nationwide effort to develop and expand voluntary health insurance."

6. "Too many physicians have been isolationists within their communities. Local societies should encourage each individual member to participate in some civic undertaking."

7. "Every doctor must be brought to realize that public relations begins in his or her office—that the way in which they treat patients reflects for good or ill on the entire profession."

8. "All county and state societies should make continued efforts to develop a close association with writers for press, radio and television."

9. "There is a need for unity within the profession. I have noticed a distressing regression toward petty internal wrangling, charges and countercharges and divisive activities by various groups within the profession."

Seventy-five resolutions were introduced under the heading of new business and were referred to the proper reference committees for consideration. While these reference committees are in open session, any physician is given the privilege of entering testimony for or against any resolution introduced for consideration.

These resolutions referred to veterans' care, intern training, medical ethics, osteopathy, statements made by members of the profession for lay consumption which are not in the best interest of the medical profession, medical education and public relations.

Eleven resolutions dealing with publicity regarding unethical conduct of physicians were brought before the House as a result of recent newspaper and magazine articles reporting statements attributed to an official spokesman of an allied medical organization. The House adopted a committee report which recommended no action on the eleven resolutions but reaffirmed the supremacy of the AMA code of ethics and urged that the Judicial Council study suggested revisions concerning methods of billing.

"The Principles of Medical Ethics as formulated, interpreted and applied by the American Medical Association must be considered the only fundamental and controlling application of ethics for

the entire profession," the reference committee report said. "Any statement relating to ethical matters by other organizations within the general profession of medicine advances views of only a particular group and is without official sanction of the entire profession as represented by the American Medical Association."

Condemning generalized statements regarding the ethics of physicians, the report went on to say:

"Your reference committee believes that the harm done to the public and to the profession by the current articles which lower the confidence patients have in their doctors cannot be objectively evaluated. This highlights the fact that when individuals or groups without official status in the American Medical Association utter or publish ill-considered statements, the result too often is that the confidence of the public in the medical profession is placed in jeopardy."

"The reference committee believes that the members of the House of Delegates have demonstrated their devotion over the years to the principles of American democracy. This devotion includes the right of free speech. With this, the Committee agrees unqualifiedly."

"Broad generalizations, ill-advised and poorly prepared statements that often fail to convey the intended meaning, are most unfortunate and are to be deplored. Destructive critical comments serve no useful purpose. Your committee has the utmost confidence that the great majority of our members are entirely capable of avoiding these pitfalls without additional advice from this committee."

The report also urged that the American Medical Association continue to inform its members and the public of its stand on matters pertaining to abuses and evils in the practice of medicine.

The reference committee on legislation and public relations considered these eleven resolutions. Three physicians from Iowa appeared before the committee: Dr. R. N. Larimer, President, Iowa State Medical Society, Dr. D. C. Conzett, Past-President, Iowa State Medical Society, and Dr. William Sproul, Des Moines, representing and speaking on behalf of the Iowa Academy of General Practice.

The all-important problem of medical care for veterans with non-service-connected disabilities was considered by the reference committee on insurance and medical service. Iowa was honored by having Dr. Gerald V. Caughlan, of Council Bluffs, President-Elect of the Iowa State Medical Society, serve as chairman of this reference committee. Dr. Caughlan reported to the House of Delegates on behalf of the committee. His committee submitted a substitute resolution for eight different resolutions concerning the treatment of non-service-connected disabilities by the Veterans Administration. The House gave unanimous approval to the recommendation. The House adopted the policy that treatment for non-service-connected disabilities should be discontinued except



in cases involving tuberculosis, or psychiatric or neurological disorders.

In taking this action, the House reaffirmed and adopted the following recommendation originally presented at the Denver Meeting last December by the Special Committee on Federal Medical Services:

"Your Committee recommends with respect to the provision of medical care and hospitalization benefits for veterans in Veterans Administration and other federal hospitals that new legislation be enacted limiting such care to the following two categories:

"(a) Veterans with peacetime or wartime service whose disabilities or diseases are service-incurred or aggravated, and

"(b) Within the limits of existing facilities to veterans with wartime service suffering from tuberculosis or psychiatric or neurological disorders of non-service-connected origin, who are unable to defray the expenses of necessary hospitalization.

"Your Committee recommends that the provision of medical care and hospitalization in Veterans Administration hospitals for the remaining groups of veterans with non-service-connected disabilities be discontinued and that the responsibility for the care of such veterans revert to the individual and the community, where it rightfully belongs."

The reference committee report adopted by the House expressed complete accord with the present program of hospital and medical care for veterans with service-connected disabilities, and also included this statement:

"It is the belief of your committee that the medical profession must concern itself, not with the numbers of 'chiselers' in Veterans Administration hospitals nor with the efficacy of the Veterans Administration in the administration of enabling legislation, but rather with the broad question of whether such legislation is sound, whether the federal government should continue to engage in a gigantic medical care program in competition with private medical institutions and whether the ever-increasing cost of such a program is a proper burden to impose on the taxpayers of the country. A consideration of this problem must of course be predicated upon a concern for the health of the entire population and not just a particular segment."

A matter in which Iowa had a vital interest was the report of the committee for the study of relations between osteopathy and medicine. Dr. John Cline of California, chairman of this special committee, read his committee's report before the House. His committee submitted a 23 page report covering nearly every phase of osteopathy. This document was referred to the reference committee on miscellaneous business for consideration. The committee spent hours in open session discussing the information contained in this very comprehensive report. Majority and minority re-

ports were given on the floor of the House. The majority report recommended postponing action on the report until June, 1954, thus giving the various societies an opportunity to examine the report of the committee for the study of relations between osteopathy and medicine. The minority report favored immediate approval and action by the House of Delegates. After hours of debate the House of Delegates approved the majority report, which will bring the report up for consideration at the June 1954 meeting of the House of Delegates. In the meantime, constituent state societies are to be furnished complete information embodied in the Cline report for consideration.

The recommendations of the Committee for the Study of Relations between Osteopathy and Medicine are as follows:

"1. That the House of Delegates declare that so little of the original concept of osteopathy remains that it does not classify medicine as currently taught in schools of osteopathy as the teaching of 'cultist' healing.

"2. That the House of Delegates state that pursuant to the objectives and responsibilities of the American Medical Association which are to improve the health and medical care of the American people, it is the policy of the Association to encourage improvement in the undergraduate and postgraduate education of doctors of osteopathy.

"3. That the House of Delegates declare that the relationship of doctors of medicine to doctors of osteopathy is a matter for determination by the state medical associations of the several states and that the state associations be requested to accept this responsibility.

"4. That the Committee for the Study of Relations Between Osteopathy and Medicine or a similar committee be established as a continuing body."

A minority report of the reference committee urged approval and adoption of those recommendations at the New York meeting. The majority report, which ultimately won out, included the following recommendations by the Board of Trustees:

"Because of the length of the report and the controversial nature of the subject, the Board feels that the House should have adequate time for its study and that the state associations should have opportunity to express their opinions.

"Therefore, it is recommended that the Committee be continued, but that action on the report be deferred until the June, 1954, session. It is suggested that at that time the House be prepared to answer the following questions:

"1. Should modern osteopathy be classified as 'cultist' healing?

"2. Since the objectives of the American Medical Association include improvement in undergraduate and postgraduate education, should doctors of medicine teach in osteopathic schools?

"3. Should the relationship of doctors of medicine to doctors of osteopathy be a matter for

determination by the several state associations?"

Several Iowa physicians appeared before the Reference Committee on Miscellaneous Business to discuss the osteopathic problem as representatives of the Iowa State Medical Society.

Five resolutions came before the House with regard to the Essentials of an Approved Internship, which were adopted at the December, 1952, meeting. The Reference Committee on Medical Education and Hospitals recommended a substitute resolution which was adopted by the House after considerable discussion. The action abolishes the rule whereby approval may be withdrawn from an internship program which for two consecutive years fails to obtain at least two-thirds of its slated complement of interns. The resolution also calls for further study of the essentials by a committee appointed by the Speaker of the House, at least half of whom are doctors in private practice not connected with medical schools or affiliated hospitals.

The House reaffirmed its endorsement of the principles embodied in Senate Joint Resolution No. 1 concerning international treaties or agreements which interfere with domestic laws or rights. The Honorable John Marshall Butler, Baltimore, Maryland, Senior United States Senator, appeared before the Conference of Presidents and other officers on Sunday, May 31, and urged continued effort on the part of the medical profession to get Senate Joint Resolution No. 1 approved. The House approved a resolution deploring a derogatory article about the American Medical Association which appeared recently in *Home Life Magazine*. The latter resolution was referred to the Board of Trustees for implementation.

One of the real highlights of this session of the House of Delegates was the appearance of Mrs. Oveta Culp Hobby, United States Secretary of Health, Education, and Welfare. In her appearance before the House, the attractive Mrs. Hobby spoke with the dignity and authority of a statesman. She praised the medical profession for its part in the promotion of voluntary health insurance and asked for further assistance from the profession in meeting the problems which have accompanied the sudden growth of this plan and the tremendous advance in medical science.

Mrs. Hobby expressed the need for a close partnership between the government, the people and the medical profession in order to achieve better health care for the people of the United States. The Secretary said, "The changing medical practice and a changing society have presented us with an embarrassing number of what are, paradoxically, problems of progress." Continuing, she stated, "There is little controversy on our objective—the best medical care possible for the people. It is the means to this end which raise the problems we face in achieving this purpose."

Socialized medicine, according to Mrs. Hobby, is not an answer, since it would impair the principle of free choice and consent in medical care

and represent a break in the fabric of our democratic system.

"The interposition of the government between the doctor and the patient," she declared, "is expensive, and the total resources for medical care, research, and education are, at the last, reduced by the amount of this cost. This point never seems to be fully recognized by those of socialist persuasion."

The involved and costly administration, the deadly effects on free inquiry and research and the impairment of democratic rights to free choice under socialized medicine ultimately defeat the over-all objective—equal opportunity for medical care, Mrs. Hobby said.

The Administration, she assured her audience, looks to the individual citizen to meet his responsibilities by making full use of resources available for the preservation of his health and by prudent participation in pre-paid plans for medical care.

The Administration also looks to the community, acting both through its private voluntary associations and its governmental bodies for help, she said.

"Most important the Administration is looking to physicians in meeting medical care problems, and ladies and gentlemen, we look with confidence," the government official concluded.

During her address, Mrs. Hobby announced that four physicians are being considered for the post of Assistant Secretary in the Department of Health, Education, and Welfare. She announced that the selection of one of the four physicians for that post would be announced within the next few days.

The last official action of the House of Delegates was the election of new officers. The physician elected to the important post of President-elect was Dr. Walter B. Martin of Norfolk, Virginia. Dr. Martin defeated Dr. R. B. Robins of Camden, Arkansas. Dr. Martin will be installed as President at the 1954 meeting of the association, in San Francisco. A specialist in internal medicine, he has been a member of the House of Delegates for twenty years. He has served on numerous committees of the AMA, and at the time of election was a member of the Board of Trustees.

The House elected Dr. Carl H. Gellenthien of Valmore, New Mexico, to the office of vice-president. He succeeds Dr. Leo F. Schiff, Plattsburgh, N. Y., and will take office immediately.

The House of Delegates re-elected: Dr. George F. Lull, Secretary-General Manager; Dr. J. J. Moore, Chicago, Treasurer; Dr. James R. Rueling, Bayside, N. Y., Speaker of the House; Dr. E. Vincent Askey, Los Angeles, Vice-Speaker of the House; Dr. Edwin S. Hamilton, Kankakee, Illinois, and Dr. Gunnar Gundersen, LaCrosse, Wisconsin, as members of the Board of Trustees.

Dr. McCormick, the newly installed president, announced the appointment of Dr. George A.

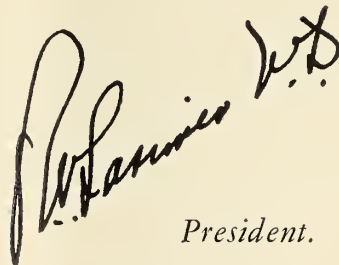
*(Continued on page 283)*



## *President's Page*

The AMA convention was well attended by the doctors of Iowa, and you have already received a synopsis of the meeting. May we suggest, even though the reading is dull, that you at least look over the minutes of the convention as reported in the Journal of the American Medical Association. The reports—particularly as regards the Osteopaths, the Veterans and Doctor Hawley—are particularly interesting. The addresses of President McCormick and Mrs. Hobby were both policy making addresses and should be read by every doctor.

It is not too early for you to think about going to the meeting in San Francisco next June. A combined convention and vacation trip may appeal to many of you, and even though graduate study is not a deductible item, the American Medical Association Convention is.

A handwritten signature in dark ink, reading "R. H. McCormick M.D." in a cursive style. The signature is slanted upwards to the right.

*President.*

## *General Manager's Page*

### IOWA PLACEMENT SERVICE

Much publicity has been given several states for their efficient service in placing new doctors in smaller communities. Your State Society has maintained this service for several years and its records compare favorably with those of the top states in the nation in bringing medical service to such localities.

It is obvious that many communities, which 15 or 20 years ago were able to support a doctor, have few, if any, practical reasons for assuming that a young man would locate in a community which, during the past few years, has gradually decreased in population as well as fallen behind in economic and educational progress. It is also obvious that paved roads and almost universal telephone service eliminate the necessity of doctors' locating within an 8-mile radius of a hospital center or a town which has an adequate supply of physicians.

As of today we have requests from 32 towns of less than 500 population; 30 requests from towns of 500 to 1000 population; 14 requests from towns of 1000 to 2000 population; 2 requests from towns of 2000 to 3000 population; 2 requests from towns of 5000 to 10,000 population; and 5 requests from towns over 10,000 population. We also have 34 doctors requesting locations.

This service is personalized in that we request the physician to come to the office, if possible, to discuss each location with us. Needless to add, in our lists of locations all pertinent information possible is available concerning the location.

Not uncommon criticisms from the smaller areas are that physicians in the larger towns do not care to make country calls and that medical service at night is almost an impossibility. Without doubt, these constitute a local problem and can be solved by the county societies.

This office will, within 30 days, institute a statewide survey of night and emergency telephone service in each county. May I solicit your cooperation in this effort to improve medical care in Iowa.

*R. O. Bernard, M.D.*

*General Manager*



---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*President-Elect*—MRS. LESTER R. HEGG, Rock Valley

*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines

*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

Two of the Sioux County Auxiliary members have been very busy with nurse recruitment work. They have shown the film "For You to Choose" in several high schools, and following the film they have given talks on the need and on the training of nurses. They have plans to continue showing this film to as many more groups as possible. The sale of *Today's Health* was so successful that the Auxiliary has been able to send \$36 of the returns to the State Nurses' Loan Fund. One member has completed plans for the conducting of a Red Cross First-Aid Course in her town this summer.

MRS. ARTHUR L. MCGILVRA

---

At the spring meeting of the Clay County Auxiliary, Mrs. Dean H. King was elected president; Mrs. Lyle Frink, vice-president; and Mrs. C. C. Jones, secretary and treasurer. All of them live in Spencer. The final activity of the Future Nurses' Club, which the Auxiliary sponsors at Spencer High School, was a field trip, on which seven members of the club visited the College of Nursing at SUI, accompanied by Mrs. King and the mother of one of the members. Mrs. King led a group discussion at the annual health workshop that was conducted on the Drake University campus, June 8.

MRS. CLAIRE H. MITCHELL

---

The Woman's Auxiliary to the Dallas-Guthrie Medical Society met with the doctors for luncheon at the Horse and Buggy Inn, in Adel, on May 21. The Auxiliary held its meeting in the home of Mrs. Allen M. Cochrane. Mrs. Charles A. Nicoll, the treasurer, reported a 100 per cent membership—30 members; Mrs. Howard W. Smith, Mrs. Elbert T. Warren and Mrs. Nicoll reported on the State Meeting; and Mrs. Charles A. Porter was appointed secretary to fill the place of Mrs. Donald W. Todd, who had resigned.

MRS. DONALD W. TODD

---

The Woman's Auxiliary to the Page County Medical Society were hostesses to the wives of pharmacists and dentists of the county on May 14. Luncheon was served at the Shenandoah Country

Club. Mrs. Charles Flynn, president of the Auxiliary, introduced the speaker, Miss Betty Burnside, who told of her experiences in Japan.

MRS. KARL A. CATLIN

---

At a meeting of the Clinton County Medical Auxiliary, on May 19, the new president, Mrs. Bernard B. Dwyer, named the following committee chairmen: Mrs. E. T. Carey, program; Mrs. Joseph E. O'Donnell, secretary; and Mrs. Don F. Mirick, publicity and public relations. Mrs. R. H. Foss and Mrs. Milton E. Barrent reported on the state session of the medical auxiliary held in Des Moines.

---

The Auxiliary to the Wapello County Medical Society joined with the Ottumwa Hospital Auxiliary and the St. Joseph Hospital Service Guild to entertain girls from junior and senior high schools in Ottumwa and surrounding towns who are interested in nursing. On May 12, the girls were provided transportation from their schools, were taken on tours of the departments in the two hospitals, and were served refreshments at the St. Joseph Hospital Nurses Home.

---

## HOSPITAL AUXILIARIES AND THEIR IMPORTANCE

Hospital auxiliaries may promote and advance the welfare of a hospital in cooperation with its governing board in the following ways:

1. Initiate new activities for nurses or help with those already established.
2. Arrange and deliver flowers.
3. Sort and deliver mail.
4. Help with personal services to patients.
5. Provide and take care of materials for a medical library.
6. Sew.
7. Do typing or clerical work.
8. Provide for patient's recreational needs.
9. Conduct membership drives.
10. Create a remembrance fund.
11. Purchase special needs such as a hospital cart or baby pictures.
12. Interpret the hospital's problems to the public.

MRS. MARTIN A. BLACKSTONE

## HEALTH SUBJECTS ARE POPULAR

We know that health subjects are popular, for a look at any news stand will reveal not only many health publications, but health articles prominently announced on the covers of all leading magazines.

What are the most popular subjects of conversation you hear at a social gathering, over the bridge table or in a neighbor's back yard? Nine times out of ten, it will be a new cure for cancer, or polio; a friend's operation, or the quickest and best way to lose ten pounds.

The interest and need for authentic health education material has never been greater. People crave correct information on health.

We doctors' wives can help people secure the authentic health information. We can do this by selling "Today's Health Magazine" whenever an opportunity presents itself. The best public relations tool in the field of health education is the American Medical Association publication, *Today's Health*. It is a magazine for the general public dealing with scientific medical discoveries and with economic, social, political, industrial and educational problems insofar as they have a bearing on the health and welfare of the people.

We are actually doing a great service for our friends, our husbands' patients and the schools by bringing "Today's Health Magazine" to their attention. I have had many people thank me for telling them about this Magazine. Once a subscriber, always a subscriber!

The following are a few true remarks from grateful subscribers:

**BEAUTY SHOP OPERATOR:** "After I have left it in the shop for a month, I take it home where I can read every word of it without interruption. My husband says he likes it better than any magazine we take."

**SCHOOL TEACHER:** "Since I have had *Today's Health* as a gift, I have been more conscious of the need to be sure of the facts that I teach the children. It has been most valuable to me in my profession; I truly enjoy reading it."

**YOUNG PARENT:** "My doctor gave me a gift subscription when I had my first baby. My husband and I have learned a great deal and have been able to use common sense in watching the health of our children. The older children read it and enjoy it, and my parents always pick it up when they come to see us."

**HOUSEWIFE:** "Until one of my neighbors, who is a physician's wife, gave me a subscription, I thought *Today's Health* was meant only for doctors to read, but now I know that it is the greatest help for people who want to be sure they have right information. My whole household reads it and when my relatives are in town they take it off and read it too. It really gets worn before everyone has finished with it."

Every year at Christmas time I give about five subscriptions of *Today's Health* to relatives and

friends as Christmas gifts. It is one of the best gifts you can give for the money.

The April, 1953, number of *Today's Health* includes an authentic article on the Brodie Siamese Twins, written by C. Lincoln Williston. For the first time in history Siamese Twins joined at the head have been successfully separated. You have read this dramatic story piecemeal in your newspaper. Here it is drawn together and evaluated by the professional writer who was closest to all of the people involved.

Other interesting articles in the April issue include:

Food to Keep You Young—Christine B. Clayton.

What Specialists Know About Sinusitis—Noah D. Fabricant, M.D.

Leukemia—Herman M. Jahr, M.D.

Helping Problem Children—Shirley Kessler.

Mechanical Heart—Shirley Motter.

Beauty and Health—Something New in Home Permanents—Veronica L. Conley.

(The AMA has a special division or laboratory that analyzes and checks on drugs of all kinds that people buy which protects the public from injurious and harmful products.)

If You Must Reduce, Here's How—Ethlyn Paige Gorsline.

Child Training—Help Your Child Win Friends—Elizabeth B. Hurlock, Ph.D.

*Today's Health* magazine has helpful information for every member of the family.

You cannot afford to be without *Today's Health* in your home!

MRS. HOWARD W. SMITH

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

### FAIR AND COOLER

July 2 .....	Hiking and Biking
July 9 .....	Picnic and Business Lunches
July 16 .....	Bugs
July 23 .....	Poison Ivy
July 30 .....	Sunstroke and Heat Exhaustion

WSUI—Tuesday at 11:45 a.m.

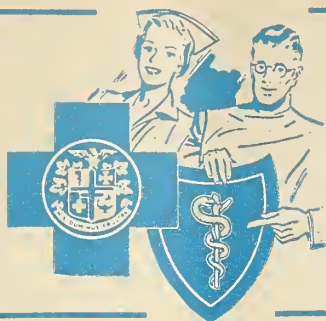
### HI—FORUM

July 7 .....	Dope, Drugs and Smoke
July 14 .....	Food and Your Health
July 21 .....	Sports and Recreation
July 28 .....	Date with the Doctor

Television broadcasts will be resumed in the fall.



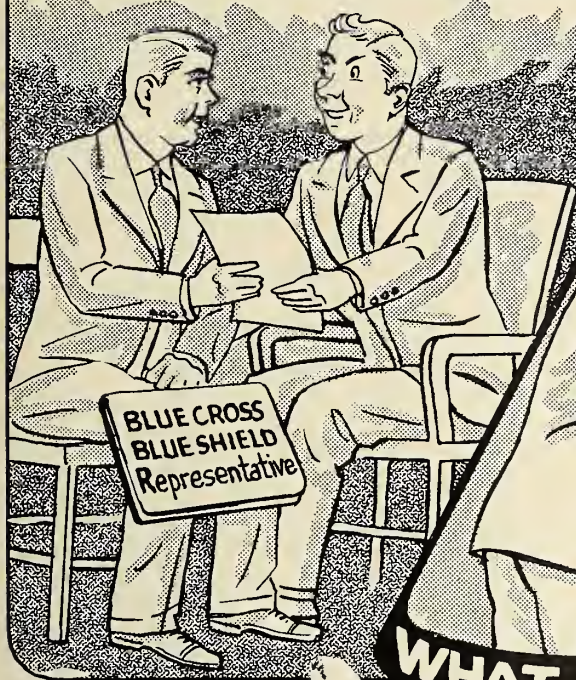
BLUE CROSS



BLUE SHIELD

**WHAT WE SAY...**

...But, Home and Office calls for Medical Care are NOT Covered



WHAT DO YOU MEAN I HAVE TO PAY! THE BLUE CROSS MAN TOLD ME ALL HOUSE CALLS ARE COVERED



**WHAT THEY SAY WE SAID**

The officials of Blue Cross-Blue Shield have asked their sales force to place special emphasis on exclusions in the Blue Cross-Blue Shield contracts. The above cartoon depicts a typical situation where a sales representative has made a real effort to explain the provisions of the contract and then the member in visiting with his physician attempts to distort the facts. The officials of the Plans are working with the sales people to improve the presentation of the doctors' and hospitals' program. Indoctrination as well as refresher courses are being carried on throughout the year.

#### NATIONAL COMMITTEE APPOINTMENT

Donald L. Taylor, Associate Executive Secretary, Iowa State Medical Society, and Director of Physician Relations, Iowa Medical Service, has been appointed to the National Physician Relations Committee with the Blue Shield Commission. There are four committee members, and the chairman is a physician. The committee assists in the development of national physician relations policy and takes part in planning an annual National Physicians Relations Conference. The ap-

*(Continued on page 281)*



---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

CHILDREN OF DIVORCE, by J. Louise Despert, M.D. (Doubleday & Co., New York City, 1953. \$3.50).

THERAPEUTICS IN INTERNAL MEDICINE, edited by Franklin A. Kyser, M.D., F.A.C.P., 2nd Edition. (Paul B. Hoeber, Medical Book Department of Harper & Brothers, New York City, 1953. \$15).

SURGICAL FORUM, Proceedings of the Forum Sessions, 38th Clinical Congress of the American College of Surgeons, New York City, September, 1952. (Saunders, Philadelphia, 1953. \$10).

THE EPIDEMIOLOGY OF HEALTH, edited by Iago Galdston. (Health Education Council, New York and Minneapolis, 1953. \$4).

THE 1952 YEAR BOOK OF ENDOCRINOLOGY (January, 1952-January, 1953), edited by Gilbert S. Gordon, M.D. (The Year Book Publishers, Chicago, 1953. \$5.50).

## BOOK REVIEWS

Additional Book Reviews on pp. 279, 281 and 304.

ENCYCLOPEDIA OF ABERRATIONS, edited by Edward Podolsky, M.D., (The Philosophical Library, New York, 1953, \$10.00).

This volume, a compilation of papers on aberrational human behavior, is quite complete in its scope. The material utilized has been prepared in such a manner that laymen can understand it and has been arranged alphabetically for easy reference. Numerous well chosen case reports are given to illustrate particular aberrations in detail.—E. M. George, M.D.

HISTOPATHOLOGICAL TECHNIC, by Aram A. Krajian, Sc.D. and R. B. H. Gradwohl, M.D. Second Edition, (C. V. Mosby Company, St. Louis, \$6.75).

This book is one which will be of interest to all pathologists doing tissue pathology. The presentations are brief, to the point, and adequately illustrated.

The sections on fixation of tissue and routine laboratory tissue slide preparations are of special interest to both the pathologist and the technologist in that common sources of difficulties are pointed out. Means of rectifying these difficulties are also discussed.

The chapters on special or differential staining methods are set forth in such a way that they lend themselves readily to consultation by the occasional user of these methods.

The section on preparation of museum specimens is very informative.

In teaching of histopathologic technic to student technologists this book should be most helpful.—F. C. Coleman, M.D.

OFFICE MANAGEMENT OF OCULAR DISEASES, by W. F. Hughes.

This is the first edition of a book, the scope of which is similar to that of other previously published books on office treatment of eye diseases. However, Dr. Hughes not only discusses treatment, but provides a fairly broad coverage of diagnosis and etiology.

Frequent reference is made to differential diagnostic

points, and these are summarized in concise tables in many instances. This feature provides quick, easy information when needed.

The treatment discussed is fully up to date and provides a concise coverage of the more popular procedures without getting lost in detailed descriptions of every imaginable therapeutic procedure.

All in all, this book should be a valuable addition to the library of any practicing ophthalmologist.—Henry H. Gurau, M.D.

THE CIBA COLLECTION OF MEDICAL ILLUSTRATIONS, by Frank H. Netter, M.D., Vol. I "Nervous System." (Commissioned and published by Ciba Pharmaceutical Products Co., Summit, N. J., 1953. \$6).

The Ciba Co., at considerable expense, has sponsored the compiling of a collection of medical illustrations. About five years ago a splendid collection of drawings of anatomy and pathology was printed under the title of The Ciba Collection of Medical Illustrations. The present compilation of pathological and anatomical paintings dealing with the Nervous System has been beautifully carried out. The volume is sold to members of the medical profession at the actual cost. The excellent illustrations are accompanied by a descriptive text. All physicians will find this book a valuable addition to their library.—E. M. George, M.D.

AN ATLAS OF SURGICAL EXPOSURES OF THE EXTREMITIES, by Sam W. Banks, M.D., and Harold Laufman, M.D. (W. B. Saunders, Philadelphia, 1953. \$15.00).

Here, at last, is a volume which should prove invaluable to the surgeon. For ready reference, the book serves as a guide for the younger surgeon, and as a "refresher" for the experienced physician. The illustrations have been beautifully reproduced, with sufficient text, succinctly offered, to describe the technique customarily followed in any given procedure. The authors are to be congratulated for providing a well-prepared atlas.—E. M. George, M.D.

THE ESOPHAGUS AND ITS DISEASES, by Eddy D. Palmer, M.D. (Paul B. Hoeber, Inc. Medical Book Department of Harper and Brothers, New York, 1952. \$15.00).

This book is an interesting collection and evaluation of studies of the esophagus. It might properly be titled "Esophagology"; for it is quite complete in its presentation of the anatomy, physiology, and pathological physiology of the esophagus.

It is a very readable compilation of the advances in esophagology which have been made by the otolaryngologist, the surgeon, the gastroenterologist, and the pathologist. While it is of necessity incomplete in some of the minutiae, it has a very complete list of references at the end of each chapter which are of inestimable value to the busy student or practitioner who wants to make an exhaustive study of any phase



of esophagology. The diagrams are clear and well planned. The reproduction of x-rays is above average in clarity and illustrative value. The photomicrographs are exceptionally well reproduced.

The book is a must for a superior understanding of esophagology. It will serve long and well as a broad compilation of our collective knowledge in this field.—*Byron M. Merkel, M.D.*

MODERN TREATMENT, by *Austin Smith, M.D. & Paul L. Wermer, M.D.* (Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, New York, 1953. \$20.00).

This is a comprehensive volume with 53 contributors of the highest caliber from all specialties. The book is designed for the general practitioner and discusses the medical treatment of the majority of diseases known to man. The philosophy and indications for surgical treatment are outlined, but not dealt with in detail. Current concepts of the action and place of newer drugs, an up-to-date section on poisonings of all types, and a table of normal values for all laboratory examinations round out the book.

This is not a "cook book" sort of treatise. The advantages and disadvantages and mechanism of action of alternative forms of therapy for a given disease and for different types of gradations of the disease are discussed, so that one can decide for himself which form of treatment would best suit the problem at hand. The thumbnail sketch of clinical manifestations which often accompanies the discussion of treatment is often helpful. I think every practicing physician would learn a great deal about current trends if he read the sections pertaining to his specialty, and that this book is an excellent and convenient treatment-reference work for the general practitioner.—*Charles H. Gutenkauf, M.D.*

DIAGNOSTIC TESTS IN NEUROLOGY, by *Robert Wartenberg, M.D.* (The Year Book Publishers, Chicago, 1953. \$4.50).

In this book, the author endeavors to stress the importance of careful clinical examination of the various divisions of the nervous system in order to direct the physician toward the proper diagnosis of a neurologic condition. He suggests that many of the highly specialized mechanical and electrical tests are expensive, time consuming, and more or less dangerous to the patient, and therefore should only be employed to give corroboration, if such is needed, or extend diagnostic information beyond what clinical observations yield. The purpose of this book is obviously to arm the diagnostician with simple tests which may be employed in the office or at the bedside to help localize a lesion or suggest a diagnosis. To fulfil this purpose, the book is divided into seven sections covering seven divisions of the nervous system, and each section gives many simple tests and discusses their interpretation and value in most instances.

It seems that this book, the result of the author's years of experience and observation, should be highly useful in particular to the man who does general practice, for his handy reference in neurological work. A double index is provided, the first one listing "morbid conditions" and the pertinent tests to employ for each such condition named. The second is a general

index. The subject matter is well organized and presented in a concise clear style, many illustrations being used to aid in visualization of the various tests. The author deserves much credit for this contribution to help the doctor use his five senses thereby saving many patients needless expense.—*William M. Sproul, M.D.*

ADVANCES IN MEDICINE AND SURGERY FROM THE GRADUATE SCHOOL OF MEDICINE OF THE UNIVERSITY OF PENNSYLVANIA. (W. B. Saunders Company, Philadelphia, 1952. \$8).

Herewith the Graduate School of Medicine of the University of Pennsylvania presents a series of short clear symposia on ten selected topics of considerable interest to the practicing physician. The subjects selected are ones of which recent advances have made a practical knowledge necessary to the busy physician whether or not he be a specialist.

The newer aspects in the treatment of hypertension, the role of potassium in health and disease, adrenal cortical hormones, pulmonary infection, recent developments in viral diseases and other subjects of similar interest are discussed in this 423 page volume.

The subjects are clearly dealt with and easily understandable. The biochemistry and physiology of the adrenal glands for instance, are explained in an easily comprehensible manner. This is not merely a summary of the current medical literature on the subjects, but rather a digest of current knowledge in concise, lucid form. All ten subjects comprising the book receive similar treatment.

The Graduate School has published this book in an effort to bring to a greater group of physicians than just those enrolled in its school, a broad knowledge of current medicine. The clinical aspects receive much attention, and fundamental knowledge necessary to understand the clinical application is presented.

I recommend the reading of this yearly publication very highly to all practicing physicians as a means of keeping up to date in medicine. Here in one yearly volume is the essence of a course in graduate medicine.—*Joseph B. Priestley, M.D.*

CARDIAC THERAPY, by *Harold J. Stewart, M.D.* (Paul B. Hoeber, Inc., New York, 1952. \$10).

A recognized authority with a vast experience in the field of heart disease has written an eminently practical guide to the treatment of cardiac disorders.

This is the type of volume which makes a desirable desk reference. Here are readily available the data a busy clinician must have—and is apt to have difficulty recalling when he needs them. Dosage of drugs, routes and schedules of administration, advantages of one preparation over another—all are given in adequate detail. The author's own opinions and preferences in therapy are frankly stated, with his reasons therefor.

In these days of low sodium diets, there has been much less tendency to restrict fluid intake in congestive heart failure. Dr. Stewart, in this volume, redirects attention to the importance of a limited intake of fluids in combating edema. There are chapters on the new surgical measures in heart disease, on what to tell the patients about their heart disease, and on diets, from Kempner's rice diet to the Schemm high-fluid-intake regimen.—*Herman J. Smith, M.D.*

---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## WHENCE ETHICS?

With the public press still pounding out its copy about unethical practices among doctors of medicine, it may be in order to review briefly some of the historical background of our "Principles of Medical Ethics," and perhaps at a later date look at some of the fundamental philosophical bases for such a code.

Anthropologists tell us that the earliest code of general ethics on record was handed down to us by Hammurabi, the Amorite, from the Empire of Sumer, circa 2298-1905 B.C. Hammurabi's law code was known as the "lex talionis," or the law of retaliation. In substance, it meant "an eye for an eye." In that same Sumeric culture originated heraldic devices and what is known today as "commercial paper" (i.e., wills, promissory notes and all sorts of witnessed and sealed documents originally on clay).

The next great code of ethics comes down to us from the Hebrews in the form of the Mosaic Law, of the Ten Commandments, circa 1100 B.C., with which we all should be familiar. This was a monumental contribution to ethics.

In the 5th century B.C. the Roman Emperor Justinian had the Roman laws assembled, thereby recording the first written laws of the world. These included the Laws of Twelve Tables which separated the "jus divinum" or divine laws from the "jus civile" or civil codes and humanized the laws so that the test of any law was considered to be "what a man of common sense and good faith would deem to be right." In this same century Hippocrates wrote his famous code of medical ethics, which remains today as the fundamental statement of ideal behavior in our profession. Thus medical ethics was first put into a class by itself.

In 1767 Thomas Percival, then but 25 years of age, began compiling some philosophical observations on the future conduct of medical practice. He amended them, rewrote portions and finally published them in 1803. These were the basis for a code of ethics adopted by the Medical Society of the State of New York in 1823.

In 1846 the American Medical Association appointed a committee to prepare a code of ethics for its consideration at its next meeting. A code was presented and adopted in 1847. But in 1852

there arose a serious controversy over acceptance of Homeopathic doctrines by some of the members.

In 1882 a report was presented to the House of Delegates of the State of New York offering a brief and simplified system of ethics as a substitute for the national code, and this was adopted. But in June, 1882, when the AMA met in Saint Paul, the delegates from the state of New York were refused admission. A bitter fight followed. Dr. Austin Flint wrote a commentary on the code, endeavoring to persuade New York to return to the old AMA code. The controversy was so fierce that it divided the doctors of New York state, and two state societies evolved, the Medical Society of the State of New York and the New York State Medical Society.

In 1903 a special committee was appointed to report at the AMA meeting in New Orleans on a revision of the code. The committee reported a revision, but there was one member who dissented, and he prepared and submitted, as a minority report, a "suitable system of advisory precepts" in medical conduct. The minority report was adopted as "The Principles of Medical Ethics of the AMA." and was considered more satisfactory than the older code.

After another revision in 1912, the House of Delegates in 1946 proposed a resolution to re-write and re-phrase the code again. Dr. Chauncey D. Leake argued that the principles of medical ethics do not clearly differentiate actual principles of ethics from rules of conduct and etiquette of the profession. One wise commentator, Dr. D. B. St. John Roosa, of New York, suggested that the only ethical offenses for which the medical profession should claim and promise to exercise discipline are "those comprehended under 'the commission of acts unworthy a physician and gentleman.'"

At present the Principles of Medical Ethics of the American Medical Association are generally divided into three spheres of contact, namely:

1. Relations and duties of the physician to his patient.
2. Relations and duties of the physician to his colleagues.
3. Relations and duties of the physician to the public.

As our code has been changed in the past, so



will it be changed in the future. As history seems to repeat itself, some of the changes to come will be as stormy as have some in the past. By even this brief review of the history of our code of ethics, many questions are raised. For instance, why should we have a code of ethics? What purpose does it fulfill? Once established, why should it later be found wrong, or incomplete, or even obsolete? Should it be changed? For what reasons should changes be made? And how should they be made?

The answers to such problems are to be found only in philosophical concepts of the bases for a code—not in economic, political, or social tides. Not since 1776 has there been any uncertainty as to the meaning of our Declaration of Independence. Nor since the first President of the United States was inaugurated in 1789 has the basic Constitution been found wrong or obsolete. These magnificent documents were conceived and recorded by men who thought only of the basic philosophical concepts of a republican form of government. The precepts set forth in the rules for operation of our government are as sound today as they were in 1789, and they have endured many crises of greater import than our medical code of ethics should ever be called upon to suffer. If our patients are treated skillfully and honestly, where should either our colleagues or the public find cause to complain about us?

#### POST-GRADUATE SCHEDULE 1953-1954

Des Moines—September 24 and 25, 1953  
(Annual Meeting. Wives invited.)  
Fort Dodge—November 12, 1953  
Des Moines—January 21, 1954

### BOOK REVIEWS

Additional Book Reviews on pp. 278, 279 and 304.

A MANUAL OF CLINICAL ALLERGY, by John M. Sheldon, M.D., Robert G. Lovell, M.D. & Kenneth P. Mathews, M.D. (W. B. Saunders Co., Philadelphia, 1953. \$8.50).

This is a compact, lucid presentation of the principles and practice of allergy. It dismisses controversial theories in brief sentences and concentrates on the practical aspects of recognizing and managing allergic disorders. Important do's and don'ts are repeated frequently in different ways so that their significance is not easily forgotten. There are a sufficient number of photographs of technical procedures to amplify and clarify the legend, and one encounters numerous photographs of the various plants and pollen particles with which the interested practitioner will deal. A complete list of the constituents of and the name of the manufacturer of nearly all trade-name medications now commercially available for treatment of each of the allergic disorders is included. An evaluation of the steroid compounds of each antihistaminic drug is given in a separate section. The various compounds apt to cause contact dermatitis in a given area of the body are tabulated, as are the most allergenic materials encountered in each of our numerous in-

dustrial occupations. Helpful pointers on incriminating or excluding these materials are given. Since this work originates from Michigan, its orientation may be somewhat better than other treatises for those practicing allergy in the mid-west.—Charles H. Guttenkauf, M.D.

DERMATOLOGY: ESSENTIALS OF DIAGNOSIS AND TREATMENT, by Marion B. Sulzberger, M.D., and Jack Wolf, M.D. (The Year Book Publishers, Chicago, 1952. \$10).

This is an enlargement of a previous book by the same authors entitled *Dermatologic Therapy*. It makes no pretense of being a complete text on dermatology, nor is it a reference book. Many of the less common and almost all of the rare skin diseases are omitted.

Treatment is stressed and, in the case of the most common diseases, it is given in considerable detail. The treatment given is that which the authors use and controversial measures are, for the most part, avoided.

It tends toward the outline type of presentation, and there are very few good pictures. It can be recommended, however, as a small book which gives special attention to the treatment of common skin diseases.—Richard Steves, M.D.

CLINICAL OBSTETRICS, by Members of the Staff of the Pennsylvania Hospital, edited by Clifford B. Lull, M.D., and Robert A. Kimbrough, M.D. (J. B. Lippincott, Philadelphia, 1953. \$10).

This book is by twenty men, each of whom has contributed in the field of his special interest. In addition to those who specialize in Obstetrics and Gynecology there are two internists, a pediatrician, a roentgenologist, a pathologist, an anesthesiologist, and a lawyer.

The book is exceptionally well written. The chapter on sterility is especially worthy of special mention; however all subjects are well treated, and in reading it one realizes that here is a book which does not read like a text, but is designed to hold interest.

Another fine feature is the number of well chosen illustrations—not those we are accustomed to see in other standard texts.—H. Kirby Shiffler, M.D.

#### Blue Cross—Blue Shield

(Continued from page 308)

pointment was made by Dr. Robert Novy, of Michigan, Vice-President of the Blue Shield Commission.

#### MORE OFFICE SPACE

The Blue Shield office has acquired additional space on the tenth floor of the Liberty Building. Mr. Sherin, the director, and his secretary, as well as the members of the Veterans Division, have moved to these new quarters.

#### BLUE SHIELD MONTHLY STATISTICS

JUNE 1, 1953

Blue Shield Members .....	443,815
Claims Processed for Payment .....	9,822
Amount Paid in Claims .....	\$303,771.23

# STATE DEPARTMENT OF HEALTH

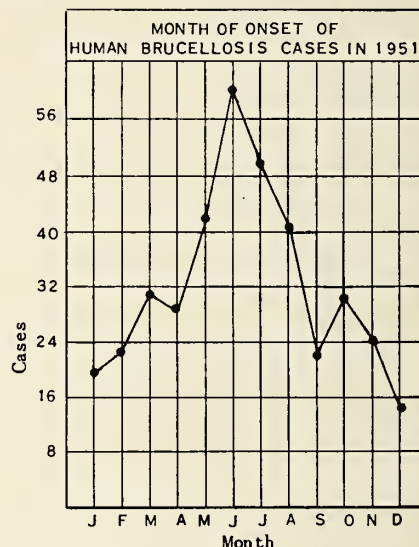
*Edmund G. Zimmerman*

## BRUCELLOSIS IN IOWA IN 1952

Iowa physicians reported 724 human brucellosis (undulant fever) cases during 1952. The county distribution of these cases as well as the 1951 cases is shown in the table below. For comparison the cases reported for the last seven years is as follows:

1946	-	-	-	-	-	-	638 cases
1947	-	-	-	-	-	-	902 cases
1948	-	-	-	-	-	-	412 cases
1949	-	-	-	-	-	-	377 cases
1950	-	-	-	-	-	-	549 cases
1951	-	-	-	-	-	-	767 cases
1952	-	-	-	-	-	-	724 cases

The onset of illness of human brucellosis cases in Iowa shows a definite seasonal variation. The graph at the right indicates the month of onset of 385 cases reported in 1951 on which the time of onset was stated. The graph shows the months of May, June, July and August as the period of the year during which many of the cases occur. Other data show that the seasonal variation is especially noticeable among farm people. This variation would seem to be associated with the spring farrowing and calving season. Farmers have closer contact with the animals during this period of the year and then become ill with brucellosis a few weeks later.



## COUNTY DISTRIBUTION OF CASES FOR 1951 AND 1952

Cases			Cases			Cases		
County	1951	1952	County	1951	1952	County	1951	1952
Adair	3	2	Fremont	1	1	O'Brien	9	8
Adams	2	1	Greene	2	2	Osceola	1	1
Allamakee	3	3	Grundy	2	2	Page	12	5
Appanoose	5	4	Guthrie	2	1	Palo Alto	8	3
Audubon	1	6	Hamilton	18	11	Plymouth	9	12
Benton	6	6	Hancock	3	5	Pocahontas	5	5
Black Hawk	20	17	Hardin	12	5	Polk	20	60
Boone	2	6	Harrison	0	2	Pottawattamie	16	4
Bremer	10	5	Henry	3	5	Poweshiek	9	1
Buchanan	9	7	Howard	2	3	Ringgold	0	3
Buena Vista	16	16	Humboldt	4	2	Sac	13	7
Butler	9	3	Ida	4	5	Scott	14	20
Calhoun	4	1	Iowa	7	6	Shelby	4	4
Carroll	8	3	Jackson	6	4	Sioux	10	27
Cass	6	8	Jasper	3	4	Story	13	6
Cedar	15	3	Jefferson	3	1	Tama	6	8
Cerro Gordo	34	46	Johnson	18	8	Taylor	7	1
Cherokee	12	7	Jones	8	6	Union	3	2
Chickasaw	3	6	Keokuk	13	8	Van Buren	2	3
Clarke	0	4	Kossuth	8	4	Wapello	19	17
Clay	4	5	Lee	2	3	Warren	5	2
Clayton	8	9	Linn	26	28	Washington	13	5
Clinton	8	7	Louisa	6	4	Wayne	1	3
Crawford	7	5	Lucas	1	5	Webster	14	7
Dallas	13	6	Lyon	5	3	Winnebago	1	5
Davis	8	11	Madison	1	3	Winneshiek	7	3
Decatur	4	5	Mahaska	9	8	Woodbury	20	20
Delaware	9	3	Marion	8	4	Worth	2	4
Des Moines	7	4	Marshall	10	10	Wright	9	13
Dickinson	3	3	Mills	4	1			
Dubuque	23	36	Mitchell	4	4			
Emmet	4	5	Monona	3	5			
Fayette	8	2	Monroe	5	2			
Floyd	10	6	Montgomery	7	9			
Franklin	7	10	Muscatine	14	20			
						TOTAL	767	724



## PREVENT DISEASE RESULTING FROM FLOODS

I. *Safeguard Drinking Water*: Drinking water contaminated by flood water may carry disease-producing germs, which cause typhoid, paratyphoid, dysentery, enteritis, and other water borne diseases. Public water supplies should be used whenever possible. All drinking water from wells or springs which may have been contaminated by flood waters should be boiled at least two minutes.

II. *Protect Against Typhoid Fever*: All persons living in flood areas, all persons engaged in flood control duties, and all persons who may travel in flood areas should be immunized against typhoid fever. Consult your health officer regarding preventive measures. (Physicians may obtain typhoid vaccine from the State Department of Health, Des Moines, Iowa.) Persons having had typhoid injection within three years will need only one booster injection, others will need the complete series of three injections.

III. *Safeguard Against Contaminated and Spoiled Food*: All milk for human consumption should be properly pasteurized. If pasteurized milk is not available, raw milk should be heated to the boiling point before used. All canned fruits, meats, and vegetables stored in flooded basements should be treated as follows:

a. Throw away food in containers showing signs of leakage.

b. Carefully wash all food containers with soap and hot water before opening.

c. After thorough washing, sterilize food containers by immersing in cold water and boil for 15 minutes. As an alternative method, immerse in a solution containing chlorinated lime (not quick lime or hydrated lime), Clorox, Hi-Lex, or similar chlorine laundry bleach which can be obtained in drug or grocery stores. The chlorine sterilizing solution should contain one ounce of chlorinated lime per gallon of water, or one ounce (two large tablespoons) of the laundry bleach to a gallon of water. Leave food containers in this solution for at least 15 minutes.

d. Thoroughly cook all root and garden vegetables or similar foods known to have been flooded.

e. Wash hands thoroughly with soap and water after handling contaminated articles.

*Refrigerated Foods*: Failure of home refrigeration facilities for one day or more may lead to food spoilage. Foods most likely to be affected include cream filled pastries, tongue, ham, luncheon meats, salads, etc. When this occurs, such foods are not safe and should be destroyed. Cooked foods such as stews or leftovers, stored in deep freezers should not be used if thawed. Other foods should not be refrozen and none should be eaten if the freezer temperature rises to 50 degrees or if an off odor or mold develops.

IV. *Clean Up Your Basement*: When the flood water has gone down in the basement, scrub the walls with soap and water, then rinse the walls

and floor with a chlorine solution. Use the chlorine solution described above.

V. *Protect Your Well After the Flood Waters Have Subsided*.

a. Pump the well and drain the piping system to remove all dirty water.

b. Disinfect the well with a chlorine compound such as  $\frac{1}{4}$  pound of chlorinated lime (not quick lime or hydrated lime) or two cups of Clorox, Hi-Lex, or similar laundry bleach.

c. Mix the chlorinated lime with two or three gallons of water before pouring into the well. Laundry bleach may be poured directly into the well.

d. The chlorine solution should be mixed with the well water by pouring in 10 or 15 gallons of water. Leave chlorine solution in well and piping system for at least 24 hours before pumping it out.

TAKE THESE PRECAUTIONS—WARN YOUR FRIENDS AND NEIGHBORS ABOUT THE DANGER.

## MORBIDITY REPORT FOR IOWA—MAY, 1953

DISEASES	MAY 1953	APR. 1953	MAY 1952	MOST CASES REPORTED FROM THESE COUNTIES
Diphtheria ..	3	1	1	Pottawattamie (2), Woodbury (1)
Scarlet fever..	212	224	82	Buena Vista, Polk, Scott, Woodbury
Typhoid fever ..	5 (para)	1	1	Scattered
Smallpox .....	0	0	0	.....
Measles .....	3135	2362	764	Johnson, Polk, Story
Whooping Cough .....	13	11	19	Polk, Pottawattamie, Sac
Brucellosis ....	22	31	26	Scattered (Sioux 2, others 1 to a county)
Chickenpox ..	811	873	281	Linn, Polk, Poweshiek, Story
Meningitis men.	4	4	5	Crawford (1), Osceola (1), Scott (2)
Mumps .....	814	755	272	Dubuque, Linn, Polk, Pottawattamie
Poliomyelitis .	14	4	7	Scattered (10 non-paralytic; 4 paralytic)
Rabies in Animals ....	20	25	40	Carroll (2), Johnson (3), Shelby (2), others 1 to a county
Infectious Hepatitis ...	315	202	40	Mahaska, Polk, Pottawattamie
Tuberculosis .	143	43	67	For the State
Gonorrhea ....	83	30	35	For the State
Syphilis .....	197	127	75	For the State

## Highlights of the 102nd Annual Meeting

(Continued from page 272)

Woodhouse, Pleasant Hill, Ohio, to the Judicial Council.

This meeting of the American Medical Association attracted the largest number of physicians of any meeting since 1947, which was the year of the centennial in Atlantic City. The last check of registered physicians disclosed a total attendance of 16,320 physicians with an estimated equal number of wives, exhibitors, medical students and others, bringing the total to nearly 35,000.

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Woodbury

Dr. Richard L. Vargo, professor of surgery at the University of Minnesota, addressed the regular meeting of the Woodbury County Medical Society on May 21. His topic was "Surgical Management of Certain Congenital Malformations of the Heart and Great Vessels."

---

### Pottawattamie

On Monday, May 25, the Pottawattamie County Medical Society were hosts to physicians from southwest Iowa and eastern Nebraska at a conference on high blood pressure. Two specialists from the Mayo Foundation, at Rochester, Minnesota, were guest speakers and discussion leaders, Dr. Ray W. Gifford, Jr., of the Cardiovascular Section, and Dr. Colin McCarty, of the Neurosurgical Section.

---

### Black Hawk

Dr. Albert H. Unger, of Chicago, addressed the Black Hawk County Medical Society, May 19, on the subject of bronchial asthma.

---

### Fayette

Dr. Roger J. Lienke, of the State Services for Crippled Children, and Dr. Michael Bonfiglio, of the Children's Hospital at SUI, spoke on the state's clinic for crippled children at the May 11 meeting of the Fayette County Medical Society held in the Hotel Mealey, at Oelwein. Twenty doctors, some of them from Buchanan and Clayton counties, attended.

---

### Washington

At the quarterly meeting of the Washington County Medical Society, on May 28, Dr. George W. Bedell, of University Hospitals, Iowa City, spoke on "Clinical Indications for Cardiac Catheterization," and Dr. J. L. Ehrenhaft, also of University Hospitals, spoke on "Surgical Heart Disease."

---

### Page

Doctors F. Lowell Dunn, Walter E. Rahm, Jr., and John L. Bramore, of the University of Nebraska College of Medicine, spoke on cardiology at

the Page County Medical Society's meeting on May 21, in Clarinda.

---

## PERSONALS

**Dr. Ralph Wicks**, of Boone, addressed a conference sponsored by the National Foundation for Infantile Paralysis at Blank Memorial Hospital, in Des Moines, on May 25. He had been asked to outline the procedure which he and his colleagues used last year in selecting patients for specialized treatment and which was so successful that the Boone area was selected by the Foundation as a model.

---

**Dr. R. B. Isham**, of Osage, discontinued his practice on May 23 in preparation for undertaking 17 months' service in the Navy.

---

Upon his release from the Navy, on May 29, **Dr. William C. Mulry** will take charge of the radiology department at St. Anthony Hospital, in Carroll. Dr. Mulry took his M.D. at SUI and studied his specialty while in service, at the Bethesda Naval Medical Center. His most recent position was chief of radiology at the Naval Hospital in Bainbridge, Maryland.

---

Two Iowa City physicians, **Dr. Kenneth J. Judiesch**, a general practitioner, and **Dr. John R. Maxwell**, a pediatrician, left their practices for service with the Army during the last week in May. Both are taking six weeks of orientation at the Medical Field Service school at Ft. Sam Houston, Texas, before being given permanent assignments. They are first lieutenants.

---

**Dr. C. C. Fowler**, of Lovilia, has retired from his general practice after 62 years as a physician, 42 of them there. He is a member of the Royal College of Surgeons and of the Iowa State Medical Society's Fifty Year Club.

---

**Dr. John Ingus** has taken over the general practice at Kellogg that **Dr. Ward R. Dunseth** left, late in May, when he was called into military service. Dr. Ingus recently completed his internship in Kansas City.

---

**Dr. D. M. Hickman**, of Indianola, was one of



115 medical officers who received diplomas on May 2 after completing work at the Air Force School of Aviation Medicine, at Randolph Field, Texas. He has subsequently been assigned to the air force base at Alexandria, Louisiana.

---

**Dr. Paul D. Pedersen** resigned from his post as surgeon with the United States Public Health Service to join his brother, **Dr. Arthur M. Pedersen**, in general practice at Council Bluffs, on May 1. In addition to his M.D. from the University of Nebraska, Dr. Pedersen holds the MPH degree.

---

A 1952 graduate of the College of Medicine at SUI, **Dr. Don Green**, is to begin general practice at Graettinger early in July, following the completion of his internship at Broadlawns Hospital, in Des Moines.

---

**Dr. H. W. Sellers** has terminated a practice that he began in Ottumwa 41 years ago in preparation for becoming plant physician for the Magma San Manuel Copper Company, in an as yet unnamed town in Arizona, forty miles north of Tucson. The new town, which is to have 8,000 inhabitants and is to include a hospital, is in the process of construction, after ten years of planning.

---

The new president of the Iowa Trudeau Society, the medical branch of the state tuberculosis association, is **Dr. Lewis J. Dimsdale**, of Sioux City. Dr. Dimsdale is a diplomate of the American Board of Internal Medicine, a fellow of the College of Chest Physicians and a fellow of the College of Allergy.

---

A Davenport physician, **Dr. Leo J. Miltner** has become president of the Iowa-Illinois Central District Medical Association. Other Iowa men who hold offices in that organization are **Dr. James Dunn**, Davenport, secretary; and **Dr. Thomas McMeans**, Davenport, assistant-secretary.

---

The British Orthopedic Association has conferred an honorary membership upon **Dr. Arthur Steindler**, who is head of the department of orthopedics at Mercy Hospital, Iowa City, and, for 30 years, was head of the orthopedics department at SUI. The British society wished to honor him especially for his textbooks and his teaching.

---

While **Dr. Donald W. Todd** is a resident in surgery at Creighton Memorial St. Joseph's Hospital, in Omaha, **Dr. Herbert Neff**, who has just finished his internship at University Hospitals, Iowa City, will take over his practice in Guthrie

Center. The two men plan to become associates in the practice when Dr. Todd returns.

---

On July 1, **Dr. George Zibilich** will join **Dr. L. H. Jacques** in general practice at Lone Tree. Dr. Zibilich is a graduate of the medical school at Louisiana State University, he practiced four years in New Orleans, served in the Army Medical Corps from 1944 until 1946, and has just completed a further two-year tour of military duty in Japan.

---

**Dr. Charles A. Field**, who has been an obstetrician at Cresco for the past five or six years, is leaving this month for service with the Army Medical Corps, as a captain. He is to receive a preliminary training course of four weeks' duration at San Antonio before being given a permanent assignment. In his absence, his practice will be in the hands of **Dr. Carroll Swanger**, who has recently completed his internship in Gary, Indiana.

---

The Air Force Medical Corps has called **Dr. John M. Wall**, of Boone. Dr. Wall, a first lieutenant, will report to Gunter Air Force Base, Alabama, for assignment.

---

**Dr. R. Giles Gillet**, a 1952 SUI graduate who has been interning at Broadlawns Hospital, Des Moines, opened an office for general practice and surgery at Sigourney, on July 1.

---

**Dr. Horace M. Korns**, of Iowa City, a specialist in internal medicine, and **Dr. Russell Meyers**, head of the department of neurosurgery at SUI, were principal speakers at a clinic on diseases of the heart, the brain and the chest conducted by the Scholtz Memorial Hospital staff, at Waterloo, on June 4.

---

**Doctors Ronald B. and John R. Morrison** have bought the office and medical practice of **Dr. D. H. Hopkins**, at Glidden. Dr. John plans to live in Glidden and Dr. Ronald will continue to live in Carroll, but both men have announced that henceforth they will be available for either home or office consultations in either town.

---

The Bankers Life Insurance Company, of Des Moines, announced the retirement, on May 28, of its medical director and vice-president, **Dr. Albert E. Johann**. He is a diplomate of the Board of Life Insurance Medicine, he had served the Bankers Life Company for 31 years, and he has long been a member of the Iowa State Medical Society.

**Dr. A. M. Hess** has resumed his practice at West Union after taking several months' post-graduate study in surgery at Minneapolis.

**Dr. William A. Tice** has announced that **Dr. Roger E. White** is henceforth to be his associate in the practice of neurology and psychiatry, at Waterloo.

The American Board of Obstetrics and Gynecology named **Dr. Don F. Mirick**, of Clinton, a diplomate last month.

The citizens of Oto, Iowa, made **Dr. G. E. Rinker** their guest at dinner on July 7, in recognition of his fifty years of service to their community.

Governor William S. Beardsley has appointed **Dr. R. F. Birge**, of Des Moines, and **Dr. Frank R. Peterson**, of Cedar Rapids, and has reappointed **Dr. R. E. Farnsworth**, of Storm Lake, to the State Board of Medical Examiners.

#### DEATHS

**Dr. Nimrod James Lease**, virtually a lifelong resident of Crawfordsville, died there on May 23 following a heart attack. Born and reared in Crawfordsville, he absented himself long enough for a college and medical school education at SUI and a ten-year start as a physician, most of it in Nebraska. During the 49 years preceding his retirement in 1951, he practiced medicine in his home town, helped found its telephone company and served as president of its bank. And, for part of that time, as a registered pharmacist as well as a doctor of medicine, he owned and operated a drug store there.

**Dr. Frank Albert Priessman** died on May 13 at Keokuk, where he had practiced medicine from 1924 until about five years ago. Before going into military service during World War I and for a short time after he returned, he had practiced in Mechanicsville.

**Dr. Earl P. Farnum**, 75, of Sibley, died there on May 16, after an illness of two and a half years. Following his graduation from the SUI College of Medicine, in 1898, he practiced first in Charles City and, beginning in 1905, in Sibley. He was made a life member by the Iowa State Medical Society in 1950.

**Dr. Harry Emanuel Nelson**, who had practiced for 58 years in Dayton, died on May 19, at Mercy Hospital, in Fort Dodge. In addition to his job of protecting the health of his fellow townsmen, Dr.

Nelson had been a leader in civic affairs, as a member of the town council, as mayor for 8 years, and as a member of the school board for 26 years.

**Dr. Louis Carl Winter**, 80, of Wilton, died at Bellevue Hospital, in Muscatine, on May 10. He began his practice of medicine in Wilton in 1901.

**Dr. Frederick Fuerste, Sr.**, 59, died on May 12 at Dubuque, where he had practiced medicine for 22 years. A graduate of the SUI College of Medicine, he had done post-graduate work in his specialty, eye, ear, nose and throat, at Rush Medical College and the University of Chicago. He had been ill for several months.

**Dr. Edwin J. Butterfield**, who engaged in general practice at Dallas Center for 43 years before his retirement in 1946, died on May 13 at his home in Tucson, Arizona, after a single week's illness. Dr. Butterfield was 73.

**Dr. Marion Henry Brinker**, of Jefferson, died quite suddenly on June 7 while he was making hospital calls. Dr. Brinker, 60, had practiced ten years in Jefferson and, earlier, had practiced at Yale, Iowa. At different times he had been president of both the Greene and the Guthrie county medical societies.

**Dr. Lee Owen Snook**, 42, a physician at Wesley for the past five years, and, at one time, president of the Kossuth County Medical Society, died at St. Ann's Hospital, in Wesley, on June 3.

**Dr. Frederick S. Bowen**, 78, of Woodburn, died of a heart ailment June 3, at the Veterans' Administration Hospital in Des Moines, where he had been a patient since May 12. He had been a Life Member of the Iowa State Medical Society.

**Dr. Fred C. Foley**, 85, of Newell, died on March 4, at St. Petersburg, Florida, following an attack of double pneumonia. He had been a life member of the Iowa State Medical Society since 1950.

#### ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of June 10, 1953

Ackerman, J. H., Clarksville  
(Atlanta, Georgia) . . . . .Sr. Asst. Surgeon, U.S.P.H.S.  
Arnold, K. E., Sioux City  
(Port Hueneme, Calif.) . . . . . Lt. (j.g.), U.S.N.R.  
Bartholomew, R. D., Lake City  
(Walnut Creek, Calif.) . . . . . Lt. (j.g.), U.S.N.R.  
Benton, J. S., Des Moines . . . . . 1st. Lt., A.U.S.



Bogle, W. C., Marion (Great Lakes, Ill.)	Lt., U.S.N.R.
Braatlien, N. T., Des Moines (Camp Carson, Colo.)	1st. Lt., U.S.A.F.
Brennan, J. E., Des Moines (Camp Pendleton, Calif.)	Lt., U.S.N.R.
Broman, J. A., Maquoketa (Ft. Sam Houston, Texas)	Capt., A.U.S.
Buzan, E. F., Des Moines (Yuma, Arizona)	
Christensen, J. R., Eagle Grove (Battle Creek, Mich.)	Lt., A.U.S.
Cline, H. L., Iowa City (Denver, Colorado)	A.U.S.
Couchman, P. G., Des Moines (San Antonio, Tex.)	1st. Lt., U.S.A.F.
Daut, R. V., Davenport (Westover Field, Massachusetts)	Capt., U.S.A.F.
Davidson, M. C., Emmetsburg (El Paso, Tex.)	Col., A.U.S.
Donahoe, J. F., Fort Dodge (Des Moines, Iowa)	1st Lt., A.U.S.
Dooly, J. E., Fort Dodge (Pleasanton, Calif.)	Capt., U.S.A.F.
Dunseth, W. R., Kellogg	A.U.S.
Eckhardt, R. D., Iowa City (Portsmouth, Virginia)	Lt., U.S.N.R.
Field, C. A., Cresco (Ft. Sam Houston, Tex.)	Capt., A.U.S.
Foley, W. E., Jr., Davenport (Phoenix, Arizona)	Capt., U.S.A.F.
Garred, J. L., Whiting (San Diego, Calif.)	U.S.N.R.
Giles, F. E., Cresco (Ft. Sam Houston, Tex.)	A.U.S.
Gladstone, W. S., Jr., Iowa City (Crestview, Fla.)	U.S.A.F.
Godbey, M. E., Mt. Pleasant (Gunter AFB, Montgomery, Ala)	1st Lt., U.S.A.F.
Greco, D. J., Des Moines (APO San Francisco, Calif.)	1st. Lt., A.U.S.
Hickman, D. M., Indianola (Alexandria, Louisiana)	1st Lt., U.S.A.F.
Horton, R. R., Algona (Bremerton, Washington)	Lt., U.S.N.R.
Isham, R. B., Osage	U.S.N.R.
Iwen, G. W., Iowa City	
Jenkins, H. F., Ogden (Randolph AFB, Texas)	U.S.A.F.
Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas)	Capt., U.S.A.F.
Johnson, M. H., Iowa City (APO New York, N. Y.)	Capt., A.U.S.
Johnson, W. A., Emmetsburg (Corona, California)	Lt., U.S.N.R.
Judiesch, K. J., Iowa City (Ft. Sam Houston, Tex.)	1st Lt., A.U.S.
Kenney, B. E., Woodbine (Raleigh, North Carolina)	1st Lt., U.S.A.F.
Kruse, R. H., Conrad (Pearl Harbor, T. H.)	Lt., U.S.N.R.
Kuehn, W. G., Clarinda (A.P.O. San Francisco, Calif.)	Lt., U.S.N.R.
Kuehnle, G. R., Dubuque (Baton Rouge, La.)	
Kurth, R. J., Waterloo (Minneapolis, Minn.)	Capt., U.S.A.F.
Ladwig, H. A., Sioux City (Great Lakes, Ill.)	U.S.N.R.
Leiter, E. R. K., Des Moines (Bangor, Me.)	Capt., U.S.A.F.
Martins, J. K., Waterloo (New London, Conn.)	Lt., U.S.N.R.
Maxwell, J. R., Iowa City (Ft. Sam Houston, Tex.)	1st Lt., A.U.S.
Middleton, W. H., Central City (Bethesda, Maryland)	U.S.N.R.
Montgomery, A. E., Jefferson (Phoenixville, Pa.)	Lt. Col., A.U.S.
Neagle, P. E., Dubuque (Sault Ste. Marie, Mich.)	Capt., A.U.S.
Paul, R. E., Des Moines (FPO San Francisco, Calif.)	Lt., U.S.N.R.
Pfaff, R. A., Dubuque (Camp Pendleton, Calif.)	Lt., U.S.N.R.
Prendergast, L. J., Iowa City (Oceanside, California)	U.S.N.R.
Province, Wm., Jr., Dubuque (Long Beach, Calif.)	U.S.N.R.
Puntenney, A. W., Boone (Portsmouth, Va.)	Lt., U.S.N.R.
Rhode, M. C., Iowa City (Philadelphia, Pa.)	
Saunders, R. J., Colfax (APO San Francisco, Calif.)	1st. Lt., U.S.A.F.
Schlichtemeier, E. O., Peterson (FPO San Francisco, Calif.)	Lt., U.S.N.R.
Shaffer, F. J., Iowa City	Col., U.S.A.F.
Shuldberg, Arthur, Des Moines (Gunter AFB, Ala.)	1st. Lt., U.S.A.F.
Sinton, D. W., Iowa City (Colorado Springs, Colorado)	A.U.S.
Smith, C. B., Iowa City (Bowling Green, Ky.)	Capt., A.U.S.
Spohnheimer, L. N., Donnellson (Randolph A.F.B., Texas)	1st Lt., U.S.A.F.
Stivers, T. W., Des Moines (Hutchinson, Kansas)	Lt. (jg) U.S.N.R.
Stutsman, R. E., Washington (Miami, Fla.)	Cmdr., U.S.N.
Sugioka, Kenneth, Iowa City (Long Island, N. Y.)	A.U.S.
Theilen, E. O., Iowa City (Washington, D. C.)	Capt. A.U.S.
Thistlewaite, E. A., Des Moines (Riverside, Calif.)	1st. Lt., U.S.A.F.
Thompson, J. W., Ames (Camp Breckinridge, Kentucky)	Capt., A.U.S.
Thornton, F. E., Des Moines (Portsmouth, Va.)	Lt. Cmdr., U.S.N.R.
Tice, W. K., Iowa City (Kansas City, Kan.)	1st Lt., A.U.S.
Troxel, J. F., Cedar Rapids (APO New York, N. Y.)	1st Lt., A.U.S.
Uchiyama, J. K., Des Moines (Wichita Falls, Texas)	1st. Lt., U.S.A.F.
Vincent, J. F., Fort Dodge (Langley A.F.B., Va.)	Capt., U.S.A.F.
von Lackum, L. S., Oelwein (Great Lakes, Ill.)	Lt., U.S.N.R.
Voorhees, P. H., Ottumwa (Jamaica, N. Y.)	U.S.N.R.
Wall, J. M., Boone (Gunter AFB, Ala.)	1st Lt., U.S.A.F.
Walker, J. R., Waterloo (Bethesda, Maryland)	Lt., U.S.N.R.
Walston, J. H., Graettinger (Lackland A.F.B., Texas)	1st Lt., U.S.A.F.
Watson, C. F., Stacyville (Hot Springs, Ark.)	U.S.P.H.S.
Westly, J. S., Mason City (Norfolk, Virginia)	Lt., U.S.N.R.
Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.)	1st. Lt., A.U.S.
*Wilkins, D. S., Iowa City (APO San Francisco, Calif.)	Capt., A.U.S.
Witte, H. J., Marathon (San Francisco, Calif.)	Lt. Col., A.U.S.
Young, R. A., Clarion (Ft. Sam Houston, Tex.)	Capt., A.U.S.
Zeilenga, R. H., Orange City (Madison, Wisc.)	1st. Lt., U.S.A.F.

\* Deceased

# MINUTES OF THE 1953 SESSIONS OF THE HOUSE OF DELEGATES

## Iowa State Medical Society

Des Moines, Iowa—April 26-29, 1953

The first session of the House of Delegates of the Iowa State Medical Society held at Hotel Fort Des Moines, Des Moines, Iowa, convened at 2:30 p.m., Sunday, April 26, 1953 with Dr. Eugene Smith, Speaker of the House, presiding. Roll call showed 116 delegates and 11 State Society officers present.

Minutes of the Wednesday morning session, 1952, were approved as printed in the July Journal.

Dr. Smith, Speaker, presented a short talk to the House. He then asked Dr. Conzett to introduce the four members of the Student American Medical Association who were present from the University of Iowa. Dr. Conzett presented: Lyle Fuller, John Hulton, Al Maurer, and Melvin Kadesky.

Reports of officers and committees were called for and were accepted as printed in the handbook.

### Reports of Officers

#### REPORT OF THE SECRETARY

*House of Delegates, Iowa State Medical Society*

Herewith is the secretary's report for the year 1952:

#### MEMBERSHIP

The membership record of each county will be found in the following tabulation. We are very happy to announce that fifty-five counties again had 100 per cent membership in the State Medical Society. This maintains the mark achieved last year, but our total membership increased from 2,464 in 1951 to 2,490 in 1952, an increase which makes us very glad. There were fifteen less eligible non-members in the state in 1952 than in 1951. There were four more ineligible physicians and two more that had retired. The membership percentage for the state as a whole was 97, just about as high a figure as we have ever attained.

#### ONE HUNDRED PER CENT COUNTIES

The counties which were one hundred per cent in membership during the year are as follows:

Adams	Davis	Lee	Ringgold
Audubon	Delaware	Lucas	Sac
Boone	Emmet	Lyon	Scott
Bremer	Floyd	Madison	Story
Buena Vista	Fremont	Mahaska	Tama
Butler	Greene	Monroe	Taylor
Calhoun	Grundy	Montgomery	Union
Cass	Hamilton	Muscataine	Van Buren
Cerro-Gordo	Hardin	O'Brien	Warren
Cherokee	Henry	Osceola	Washington
Chickasaw	Howard	Page	Webster
Clarke	Ida	Pocahontas	Woodbury
Clay	Jackson	Polk	Worth
Dallas-Guthrie	Kossuth	Poweshiek	

#### AMA DUES

For the fourth year, the secretary's office was charged with collecting AMA dues from our members and remitting them to Chicago. Once again, our members responded very well and we rank among the high states percentagewise in the number of AMA members.

Since our representation in the House of Delegates of the AMA depends upon our paid membership, we are glad that our doctors are supporting their national organization. In the past, doctors who have been members of their county and state societies have automatically been members of the AMA and their names have been carried in large type in the directory of the American Medical Association. Now, however, the new directory of the AMA will carry in large type only the names of those who have paid their AMA dues. This is a logical outgrowth of AMA dues. If a man is not a member of the organization issuing the directory, he will not be carried as a member of it.

The AMA has been sending its Journal or one of its other publications to each of its members. The Secretary's office has served as a clearing house for making substitutions where desired by doctors.

#### 1952 MEMBERSHIP RECORD

County	Members	Eligible	Ineligible	Not in Practice or Retired	Pctge.
Adair	5	3	..	..	63
Adams	8	..	..	..	100
Allamakee	8	1	..	1	89
Appanoose	11	3	..	..	79
Audubon	6	..	..	..	100
Benton	17	2	..	..	89
Black Hawk	95	2	2	2	98
Boone	20	..	..	..	100
Bremer	16	..	..	..	100
Buchanan	11	1	4	..	92
Buena Vista	19	..	..	..	100
Butler	11	..	..	..	100
Calhoun	17	..	..	2	100
Carroll	24	1	1	..	96
Cass	15	..	1	2	100
Cedar	8	2	..	..	80
Cerro Gordo	58	..	..	2	100
Cherokee	14	..	3	4	100
Chickasaw	13	..	..	..	100
Clarke	6	..	..	..	100
Clay	12	..	..	..	100
Clayton	11	5	..	4	69
Clinton	47	3	3	..	94
Crawford	10	2	..	2	83
Dallas-Guthrie	27	..	1	2	100
Davis	14	..	..	..	100
Decatur	7	1	..	1	88
Delaware	8	..	1	2	100
Des Moines	44	1	..	2	98
Dickinson	7	1	..	..	88
Dubuque	68	3	..	1	96
Emmet	16	..	..	..	100
Fayette	26	1	..	2	96
Floyd	16	..	..	..	100
Franklin	8	3	..	1	73
Fremont	9	..	..	1	100



County	Members	Not in Practice			Pctge.
		Eligible	Ineligible	or Retired	
Greene	19	..	..	2	100
Grundy	14	..	..	..	100
Hamilton	13	..	1	..	100
Hancock-					
Winnebago	17	3	..	1	85
Hardin	20	..	1	3	100
Harrison	8	1	1	4	89
Henry	13	..	..	..	100
Howard	6	..	1	..	100
Humboldt	8	1	..	..	89
Ida	10	..	..	1	100
Iowa	11	1	..	1	92
Jackson	13	..	..	..	100
Jasper	18	3	..	1	86
Jefferson	8	1	..	1	89
Johnson	204	4	4	10	98
Jones	11	3	..	..	79
Keokuk	10	2	1	1	83
Kossuth	15	..	2	1	100
Lee	36	..	..	1	100
Linn	124	5	..	7	96
Louisa	2	3	..	..	40
Lucas	9	..	..	..	100
Lyon	5	..	..	..	100
Madison	8	..	..	..	100
Mahaska	19	..	..	1	100
Marion	17	2	..	5	89
Marshall	40	1	..	3	98
Mills	6	2	2	..	75
Mitchell	12	2	..	2	86
Monona	10	1	..	2	91
Monroe	8	..	..	1	100
Montgomery	15	..	..	..	100
Muscatine	18	..	2	..	100
O'Brien	18	..	..	..	100
Osceola	9	..	..	1	100
Page	28	..	1	..	100
Palo Alto	15	2	..	..	88
Plymouth	13	1	..	3	93
Pocahontas	8	..	1	1	100
Polk	332	..	4	21	100
Pottawattamie	72	2	..	5	97
Poweshiek	16	..	..	..	100
Ringgold	5	..	..	..	100
Sac	11	..	..	..	100
Scott	105	..	2	8	100
Shelby	6	1	..	..	86
Sioux	16	1	..	..	94
Story	41	..	..	4	100
Tama	15	..	..	6	100
Taylor	5	..	..	..	100
Union	17	..	..	..	100
Van Buren	6	..	1	1	100
Wapello	54	1	1	1	98
Warren	9	..	..	1	100
Washington	19	..	..	1	100
Wayne	6	2	..	..	75
Webster	55	..	..	1	100
Winneshiek	10	1	..	1	91
Woodbury	120	..	3	7	100
Worth	5	..	..	..	100
Wright	19	1	..	4	95
Total	2490	82	44	142	97

## PLACEMENT OF PHYSICIANS

The Secretary's Office has continued to work actively in placing physicians in localities where they are needed. We are now cooperating with the armed services in providing a list of locations to doctors as they are released from military service. Names of such doctors are provided to us by the Council on National Emergency Medical Service of the American Medical Association.

We are also trying to obtain physicians for communities whose doctor is being called into service.

It is encouraging to note a trend toward general practice in smaller communities. The trend has been evident for the past two or three years and is a reversal from that following World War II.

## ANNUAL MEETING

With the return of the annual meeting to Des Moines, arrangements were both simplified and complicated. The Hotel Fort Des Moines is very cramped

for exhibit space and we often had to decide whether it would be better to use a room for exhibits or to hold it for meeting purposes. The final decision was to use the South Ballroom for technical exhibits and to place our scientific exhibits and some of our section meetings in the Midtown Roller Rink, half a block west of the hotel. Ordinarily, this arrangement would have worked out very well, but due to unseasonably hot weather the end of April, the roller rink was not as comfortable as we would have wished.

Facilities for the scientific exhibits were very good in the rink. We had sufficient booth and aisle space to allow for a good showing. Addition of a Blue Cross-Blue Shield lounge was greatly appreciated. It is hoped we may continue it as a regular feature of our scientific exhibits.

## NEW BUILDING

Much work was entailed in the construction of the new building during the spring and summer of 1952. Some new equipment and machinery had to be purchased and some of the old discarded. Records dating back for many years had to be studied and some of them eliminated. The move, itself, was a big task but was accomplished with a minimum of trouble.

## COMMITTEE ACTIVITIES

Many committees of the State Society have been active during the past year. Many meetings have been held and an effort has been made to coordinate the work. Some of the committees overlap on the responsibilities of others, but there has been no conflict of authority but rather a working together in these instances.

Many activities are at the present time in the projection stage only. It is hoped that either these committees will be reappointed or that the ones appointed in their place will carry forward the plans which have been outlined. Much praise is due to the committee members who have been most faithful during the year in trying to work out programs which will bring better medical care and understanding to the people of Iowa.

## NEWS BULLETIN

The News Bulletin which was started the last of 1951 was continued throughout 1952. Every effort is made to get the Bulletin to all members as soon as possible so as to keep them informed of State Society activities and policies. We hope the Bulletin has been of service to our members. We have tried to make it brief yet clear. In order to get it to you at the earliest possible moment we have also resumed mimeographing it rather than having it printed. It may not look as well but can reach you four to five days earlier. A new folding machine which was purchased after we moved into our new building also speeds up the mailing process.

## FINANCIAL STATEMENT

All funds due the State Society have been collected by the Secretary and turned over to the Treasurer and all AMA dues have been remitted to the American Medical Association.

A. B. PHILLIPS, *Secretary*.

## REPORT OF THE TREASURER

When we made our financial report to you last April, we told you the State Society was in a much stronger financial situation than it had been for several

previous years. An addition of \$10,000 had been made to the permanent surplus, and there was on hand about \$25,000 to build the new office building.

Our assets at the beginning of that year, 1952, were as follows:

Treasury Bills .....	\$15,000.00
Treasury Bonds .....	15,000.00
Series G Bonds .....	27,500.00
Savings Account .....	10,513.82
Secretary's Account .....	711.50
Treasurer's Account .....	929.46
Option on Real Estate .....	500.00

TOTAL .....\$70,154.78

During the year of 1952, we received income from the following sources:

Dues .....	\$102,637.50
Journal Advertising .....	17,705.10
Journal Reprints .....	2,468.46
Speakers Bureau Fees .....	135.60
Annual Session .....	7,527.30
Medical Service Refund .....	3,796.75
Miscellaneous .....	736.26
Interest on Savings Account .....	121.87
Interest from Bonds .....	1,000.00

TOTAL RECEIPTS .....\$136,128.84

Expenditures were made for the following activities:

Printing and Engraving .....	\$ 25,401.52
Reprints .....	2,304.76
Annual Session .....	7,650.59
Speakers Bureau .....	1,595.96
Medical Service .....	13,167.73
Administrative Miscellaneous .....	3,716.45
Rent and Office Supplies .....	6,145.37
General Salaries .....	15,162.85
County Society Services .....	2,341.95
Trustees .....	850.46
Council .....	1,168.34
Legislative Committee .....	6,600.00
Other Committees .....	5,956.17
Taxes and Insurance .....	1,139.52
Medicolegal .....	1,771.27
Public Relations .....	10,875.41
Miscellaneous .....	44,103.39

TOTAL DISBURSEMENTS .....\$149,951.74

From this total should be subtracted \$500, the deposit made on the lot, and the reconciliation shows we spent \$13,322.90 more than we took in during the year.

The miscellaneous disbursements listed in 1952 covered the cost of the land and new building, \$41,459.51, and new office equipment of \$2,643.88. The \$15,000 in Treasury Notes on December 31, 1951, were cashed and used in paying for the building.

At the conclusion of 1952, therefore, the total of investments and cash in banks was \$56,331.88. This was represented by:

Government Bonds	
Treasury Bonds—2½% .....	\$15,000.00
U. S. Savings Bonds Series G. ...	27,500.00
Total Government Bonds ..	\$42,500.00

Cash in Banks:

Treasurer's Account .....	977.72
Secretary's Account .....	718.47
Savings Account—	
Bankers Trust .....	3,060.57
Central National .....	9,075.12

Total Cash in Banks .....\$13,831.88

TOTAL (Bonds and Cash) .....\$56,331.88

In addition to this, of course, we have the new building and furniture and equipment amounting to \$44,103.39.

N. B. ANDERSON, *Treasurer*.

## REPORT OF THE BOARD OF TRUSTEES

Members of the House of Delegates:

Your Board of Trustees had a very busy year during 1952. Thirteen meetings were held in the office, and several telephone conferences were called to discuss matters pertaining to the new office building.

As we reported to you at the last meeting of the House, an option was taken on a lot on 36th Street in December of 1951 and the option was exercised in February, 1952, after plans for the building had been drawn. Originally we contemplated a one-story building with floor space of around 2,000 square feet. The elevation of the lot, however, made it possible to add a basement for almost no more expense than the cost of the footings would have been, thus giving us almost twice the floor space.

Work started in March and proceeded rather slowly until good weather arrived, then went forward rapidly. We actually moved into the first floor of the building on August 15, and the trustees met in it for the first time on August 19.

The formal opening was held the evening of September 24 when past and present officers and committee chairmen were invited to a dinner and inspection. Eighty-seven persons attended that dinner.

We are happy to report that the building is entirely paid for and that it is serving a useful place in the community. Many committee meetings have been held there; the Woman's Auxiliary now has storage space for its files and records and has an official part-time secretary; a medical shorthand class is held one night each week; and a class on maternal care is to be held this coming spring. Your trustees feel the building should be open for all useful projects related to health, and has encouraged Blue Shield to use the facilities whenever it wishes.

Most of the old office furniture and equipment was retained, given a good coat of paint, and is now fitting in well with the new surroundings. The addressograph, mimeograph and postage meter were all new pieces of equipment and were retained. A folding machine was purchased to speed getting out both the yellow news bulletin and the green legislative one. This will fold our 2500 pieces of copy in about half an hour, thus saving much clerical time.

The workroom in the new building is well arranged for efficient output of work and is a far cry from the old crowded quarters downtown.

Our two meeting rooms, one on the first floor and one in the basement, make it possible to have the Auxiliary in session while the Executive Council is meeting, or for two committees to meet at the same time.

The convenient arrangement of the offices also pro-



vides an easier interchange of communications from department to department and has brought about a closer coordination of Society work.

Naturally the trustees had many decisions to make about the building and its furnishings, and part of each meeting was devoted to this. Early in the year, also, the board discussed various problems related to the annual meeting and recommended certain innovations and changes which it felt would be welcomed by the members.

One of the most important problems confronting the trustees early in the year was that of income tax deficiencies charged up to many Iowa doctors. Our legal counsel, Mr. Myers, was called upon for advice by many physicians whom the Bureau of Internal Revenue was billing for additional taxes. The matter was deemed so important that the board instructed Mr. Myers to set up a clearing house to which all physicians and their attorneys might turn. Mr. Myers was asked to make a monthly progress report which was then carefully considered by the board.

It was while he was working on this matter that Mr. Myers became impressed with the need for a clearer statement of medical ethics to guide the physicians in their billing procedures. The trustees agreed that such an elaboration would be helpful and asked the president to call the Executive Council into session to consider it. Several meetings were held on this particular subject, the result being a statement which set forth the approved policy for Iowa.

The trustees have also studied Blue Shield problems throughout the year. There has been a demand for the elimination of medical services from Blue Cross contracts, and the trustees have discussed this with Blue Cross, Blue Shield, and the State Society committees appointed to deal with the problem.

Several problems have arisen in connection with the Journal. Comprising as they do the Publication Committee, the trustees have studied requests for advertising from commercial insurance companies and collection agencies. There were more of these than ordinary during 1952 and the board did its best to adopt a course which would be most helpful to its members.

Baldrige-Beye loans were made to the extent of funds available, and in addition, the board reviewed a proposal made by Dr. Scanlon of Iowa City that a corporation be set up to solicit funds from members which could then be loaned to medical students. Doctors loaning funds would receive four per cent, the students would pay five per cent, and the bank acting as agent would receive one per cent for its service. The trustees felt the idea was a good one and had it presented to the Executive Council for approval, and has since helped in organizing the corporation and publicizing it.

Don Taylor has continued on a part time basis during 1952, giving part of his time to State Society activities and the rest to Blue Shield. He has reported to the trustees at each meeting, thus keeping them in touch with sentiment over the state. Dr. Bernard also reports to the board at each meeting so that it may be advised of the contacts he makes and the work he accomplishes. The television program has been under constant study, since it is a new venture and no one can say with certainty what type of program is best.

One matter to which the board has given much thought is that of delineation of responsibility for officers and employed personnel. A chart based upon the by-laws was prepared for the Society exhibit at

the annual meeting; it outlined some areas rather specifically, but left others in general terms. The trustees feel that the welfare of the Society and the scope of its activities can be increased if there is efficient functioning of everyone concerned, and if overlapping and duplication can be eliminated where they exist. Insurance companies long ago recognized the need for inspections and ratings and many of the larger companies hire experts who can advise them on more efficient procedures.

With that in mind, the trustees decided at the December meeting that a survey should be made of the Iowa society, and the executive secretary was instructed to investigate getting a competent person to make a study and recommendations. As this report is being written, the survey is under way, and the trustees will present the findings and recommendations to the House of Delegates in April.

The report of the treasurer shows that the financial condition of the Society is good. There has been greatly increased committee activity during 1952 but the expense for all of the work has been met. In order that the trustees may be fully aware of what is taking place in the Society, they have instructed the executive secretary to provide them with a copy of the minutes of each committee meeting. They have also increased the mileage allowance from six to eight cents, which is a more realistic figure under today's conditions.

A further report will be given at the annual meeting.

L. A. COFFIN, *Chairman*,

J. W. BILLINGSLEY,

W. L. DOWNING.

## Reports of Standing Committees

### REPORT OF THE GRIEVANCE COMMITTEE

The Grievance Committee has continued to function along the lines set out in last year's handbook report. To date, seventy-five complaints have been received by the committee since its inception. All but five have been settled, we believe pretty much to the satisfaction of all concerned.

During the past year the committee has become something of a clearing house for certain disputes concerning medical ethics and procedures, particularly with respect to hospital procedures. We hope we have been able to be helpful in these instances.

We wish to make it clear to the membership of the State Society that patients are not being allowed to use the Grievance Committee to get out of paying fees justly owed to their doctors, although there have been a few instances in which the doctors were urged to reduce their fees to some extent.

For the most part, the membership of the State Society has cooperated very well with the Grievance Committee in its efforts toward just and fair public relations. Attendance of the members of the committee at the meetings has been close to one hundred per cent continuously.

L. W. SWANSON, *Secretary*.

### REPORT OF THE LEGISLATIVE COMMITTEE

The Legislative Committee, composed of Doctors John W. Billingsley, Allan B. Phillips, Ben T. Whitaker, John D. Conner and myself has met at frequent intervals throughout the year.

Early in 1952 plans were formulated to join with



many other groups in getting out a large vote for the primary and general elections. The legislative contact men and the Woman's Auxiliary of the Iowa State Medical Society were very cooperative and worked closely with the Legislative Committee.

During the spring and summer of 1952 the Legislative Committee was in close touch with our senators and congressmen on legislation before the Congress. The viewpoint of the Iowa State Medical Society was presented on such issues as HR 7800 to set up a waiver of payment program for social security in case of disability.

Later in the spring our legislative contact men were very helpful in providing information on candidates for the State Legislature. It should be said at this point that the Legislative Committee has the highest praise for the legislative contact men. We can depend on them and through them we have a statewide legislative organization.

After the election on November 4 your Legislative Committee had meetings with as many of the congressmen and senators as possible to talk over matters of interest to members of the Iowa State Medical Society. These meetings will continue. Such things as hometown care for veterans, nonservice connected medical care for veterans, retirement plans for physicians and other professional men and the dangers of the ILO have been discussed.

The Legislative Committee has worked with Doctor Caughlan's committee as the problems of the Board of Medical Examiners were studied. The committee has also met with the Board of Health and the Council of the Iowa State Medical Society.

The Legislative Committee wishes to express its appreciation for the fine work done during the year by the Woman's Auxiliary and it also wishes to thank Miss McCord and her staff, Doctor Bernard and Mr. Don Taylor for all the help during the past year. It particularly wants to thank Mr. I. W. Myers for what the Legislative Committee believes to be a very fine job as legal counsel.

F. C. COLEMAN, *Chairman.*

## REPORT OF THE COMMITTEE ON MEDICAL SERVICE

The changing world and medical progress has confronted us with many new and unprecedented problems. There has been a tremendous increase in the cost of medical education and, likewise, of medical care. Our services are more in demand today than ever before and often for longer periods of time. Our physicians were once rather uniformly distributed over the country. Today they are becoming concentrated in large centers, leaving outlying areas without enough medical help. The era of specialism is upon us. It further depletes the ranks from which the general practitioner once was recruited. Home care in serious illness is almost a thing of the past. As is true in every other field, public demands are becoming more exacting and the politicians are making our business theirs.

Contrary to the opinion of many physicians, these changes are not going to be solved at a state or national level. They can only be solved through the cooperation of individual doctors in their own local societies or communities. Scientific excellence alone is not a sufficient answer. We won the battle against regimentation with our promises of better medical service.

Now it is up to us to produce this better medical service or our seeming victory will turn to defeat.

Our Committee on Medical Service has in its personnel men who are familiar with many problems of business and economics which face us today. They stand ready and willing to visit local county medical societies to discuss these problems. We of the committee feel it would be most helpful if each local society would set aside one evening a year for discussion of these non-scientific matters. We urge every secretary or program chairman to consider this in making up plans for next year's program.

Your committee stands ready to send men to your meetings to analyze these matters and try to fit them in with local conditions.

FRED STERNAGEL, *Chairman.*

## PUBLIC INFORMATION—DOCTOR-PATIENT RELATIONSHIPS

At the meeting held last year, the following suggestions were proposed:

1. Medical-Press-Radio conferences should be held at the county level, with each county medical society selecting a radio-press contact man who can be consulted about questions arising in the field of medicine. The Medical-Radio-Press Code of Cooperation should be a basis for this discussion. A number of these meetings have been held and the results in certain cases have been spectacularly successful. Even though the Code of Cooperation may have been relegated to the shelf, it will still serve as a basis for discussion.

2. County fee schedules should be established in every county society and these fee schedules should be registered at the State office.

3. An attempt should be made to establish a uniform county indigent fee schedule based on information from various counties.

4. More favorable and moderate publicity should be given to the Grievance Committee.

5. Organization meetings should be held by every county medical society for the purpose of indoctrinating members on State Medical Society matters.

6. Meetings should be held at the county level to discuss more intimate patient-physician relationships and also matters that cause trouble in connection with this relationship.

7. Doctors, Secretaries and Nurses meetings should be continued as they have been in 1952.

8. Our committee recommends that once a year all new practitioners of medicine be invited to Des Moines for the purpose of indoctrinating them in the organization and set-up of the State Medical Society.

9. The committee also recommends that county medical societies hold indoctrination meetings for their new members to make them familiar with local medical society matters and procedures.

As far as the future is concerned, your committee hopes it may sponsor a few county meetings, at which time the two following subjects will be taken up for consideration:

1. State Medical Society organization matters.

2. Factors that enter into the doctor-patient relationship which tend to cause ill will.

Two such meetings are being contemplated at this time. They will serve as guinea pigs for future meetings and we hope they will prove successful and that the idea may be extended over the state.

O. N. GLESNE, *Chairman.*



## VETERANS' AFFAIRS

The Veterans Administration contract with Iowa Medical Service for the Home Town Medical Care program was renewed in June 1952 with very few changes from the previous year. The out-patient work authorized in 1952 decreased from the previous year's figure, due to a cut in the VA's appropriation. Several complaints have been received regarding Veterans Administration policy, particularly the admission of non-service-connected disabilities to the Veterans Hospitals. As this is a political football, however, it is doubtful whether our congressmen would oppose it.

Your committee will be glad to consider any suggestions or criticisms you may have to offer before the contract and fee schedule are renewed in June of 1953.

R. C. GUTCH, *Chairman.*

## ALLIED PROFESSIONS

The subcommittee on Allied Professions worked through the Iowa Interprofessional Association in 1952. The Interprofessional Association had a very active fall, holding five district meetings throughout the state to which all members were invited. Attendance was very good considering the time of year and the shortness of scheduling. The interest manifested in each community was very satisfactory and the decision was made to repeat the meetings again in 1953, scheduling them, however, in September or October.

The project brought all of the six groups comprising the Interprofessional Association into a closer working harmony and should mean close cooperation during the year ahead.

JAMES E. REEDER, *Chairman.*

## HOSPITAL AND PROFESSIONAL RELATIONS

The Committee on Hospital and Professional Relations presents the following report of its activities during the past year:

Our first meeting was held on September 14 in the new office building of the Iowa State Medical Society. This meeting was particularly significant. A resolution presented to the House of Delegates in April was referred to our committee for investigation. It dealt with eliminating medical services from hospital service contracts and of extending Blue Shield benefits to include these services, such as radiology, pathology and anesthesiology. Members of the three services mentioned as well as the directors and officers of Blue Cross and Blue Shield were present at the meeting. The President of the Iowa State Medical Society, Chairman of the Committee on Medical Service, General Manager and Executive Secretary of the Society were also in attendance.

One factor which precipitated the September 14 meeting was the new Blue Cross Comprehensive 70 contract, which pays for anesthesia given by hospital employees only and does not reimburse physicians who may give anesthesia. Problems presented by this need no further comment. Prior to the committee meeting, each member of the committee contacted anesthesiologists in their respective areas so as to have their opinions. Representatives of the societies in pathology and radiology said their organizations had no problems of immediate import, but expressed the opinion that when and if Blue Shield could take over all fees for their service they were ready and willing to cooperate.

Members of Blue Shield did not feel this advisable

or in fact possible at the present time because of financial reasons. After an all day deliberation, a resolution was adopted reiterating the wish that as soon as possible these medical services be eliminated from Blue Cross contracts and be incorporated in Blue Shield contracts.

At this meeting, September 14, the committee also approved a resolution introduced into the House of Delegates of the American Medical Association by Dr. George Braunlich. This concerned invasion of the medical field by members of the Oral Dental organization.

Following the September 14 meeting, many letters were written back and forth and your chairman met again with members of the Iowa Society of Anesthesiologists, Blue Cross and Blue Shield. The sincerity and cooperation of members of Iowa Medical Service were extremely gratifying. Details of the manner in which the anesthesiologists are to be paid were finally relegated to the Board of Directors of Blue Shield with the full approval of Blue Cross.

This report cannot be completed without mentioning the tireless efforts of Don Taylor in meeting with anesthesiologists in Davenport, Rock Island, Waterloo, Des Moines and Cedar Rapids.

After months of written and verbal comment, as well as many meetings, your committee is pleased to report that as of February 1, 1953 Blue Shield will present a new contract under which anesthesia will be a service benefit. This will be based on a percentage of the surgical allowance with a minimum allowance of \$10.00 and a maximum of \$37.50.

The Committee on Hospital and Professional Relations has now become involved in the problem of nursing, not as a specific duty but in the interests of cooperating with hospitals in settling their nursing problems as well as providing proper care for patients which is, after all, our problem too. A member of the committee met with representatives of fourteen other states in Kansas City on September 28. At this meeting nursing problems were discussed and a motion similar to that presented at the AMA meeting in Denver was presented. This same committee man has met with representatives of the Iowa State Nursing Association and the Iowa Hospital Association, the Dean of the College of Nursing of the University of Iowa, and will attend a meeting of these same organizations in Cedar Rapids on January 28. The purpose of all of this is to formulate policies for improving nursing services. The consensus of these meetings will be presented to another regional meeting to be held in Lincoln, Nebraska, February 1, with the same representatives of the fourteen states present. When some plan of definite action or policy seems evident, your chairman will again seek the advice and recommendations of his committee.

C. H. STARK, *Chairman.*

## HEALTH EDUCATION

Iowa Rural Health Council. As a member of the Subcommittee on Health Education, I attended the yearly workshop of the Iowa Health Councils held in Cedar Falls. I represented the Iowa State Medical Society at this meeting. I am also a member of the Board of Directors of the Iowa Health Council. This has held one meeting during the past year, at which time the annual meeting was planned. It was held in Des Moines in November at the State Capitol. The Iowa Health Council is an organization designed to



direct and help local county health organizations over the state and to integrate projects on a statewide basis. It is greatly handicapped by lack of funds.

JOHN D. CONNER, *Chairman*.

**Industrial Health.** The Committee on Industrial Health did not accomplish all it contemplated, but feels it made a definite start toward the goal. Initially, we made an industrial survey. Cards were sent to 2,303 members of the State Society. Twelve hundred fifty-one replies were received, although 115 of them were unsigned. We found there were forty-eight doctors doing industrial in-plant medical work and 487 doing some type of industrial work. In addition, there were 445 physicians interested in doing additional industrial work.

One of our prime interests was to publish a booklet for industrial nurses to serve as a guide for care of industrial workers. At the present time we are working on this booklet but it will be some time before it can be published.

Our committee feels that in-plant medical tours should be encouraged. Polk County was selected for an experiment and it was found arrangements had already been made for a plant tour program at the Armstrong Rubber Company in Des Moines in March 1953. We are waiting with interest to see the reaction of those who attend.

In cooperation with Mr. C. L. Campbell of the Industrial Hygiene Division of the Iowa State Department of Health, we have been discussing the possibility of setting up institutes on industrial health. These would consist of five or six one-day meetings to be held in various parts of the state, sponsored jointly by the State Society and the State Department of Health. Practicing physicians, industrial physicians and industrial managers would be invited to attend.

Our committee has been handicapped by bad weather which has made attendance at committee meetings almost impossible.

R. F. FRECH, *Chairman*.

**Rural Health.** During early meetings of the Rural Health Committee, it became apparent that many of the functions ordinarily falling to this group also came under various other committees. We desired to keep sight of the overall picture even though at times an overlap of functions would inevitably occur. For that reason, we listed several urgent phases which we felt needed most attention during the ensuing year. We realize some of these are within another committee's jurisdiction.

Since rural health embodies a tremendous field, organization seemed slow and results at times unattainable. We realized early in the game that a hard-working committee might spend the entire year on one problem without reaching a solution. Consequently, it seemed that the committee might best survey the known problems, initiate steps toward a solution and remain prepared to assume responsibility for new problems as they arose. Most of these projects cannot be finished in one year. Some will require perhaps a decade for completion. It seems important, then, that newly appointed committees should assume unfinished projects left by their predecessors and carry them forward whenever possible. Following is a list of the problems we dealt with and our suggestions concerning them:

1. Establishing cooperation of doctors with health units throughout the State. The purpose of these

health councils is to bring under one organization all of the health agencies in any particular area. At present twenty-five or thirty such councils have been organized and are working well. They promote health education, function in lieu of the outmoded board of health, are of value in epidemiology, sanitation, and preventive medicine. They eliminate much overlap. Councils are made up of voluntary workers and are not political units—a valuable point.

On two occasions, the committee met with representatives of the Women's Division of the Iowa Farm Bureau Federation. Nine district representatives were present at one meeting. Their problems were discussed and plans were laid to aid them. The State Society agreed to put on some type of health program in one or two counties on an experimental basis in an attempt to tie physicians securely into the program. It is the feeling of the committee that doctors should head all health plans. Our members should spearhead and advise local health councils, supporting lay persons who are anxious to establish good rural health.

A second meeting was held to follow up this first meeting, with Mrs. Inman, Chairman of the Women's Division, present. The women of this group are interested in all phases of rural health. They need encouragement and praise for the fine work they have already accomplished.

2. Shortage of rural physicians. This problem seems to be uppermost in the minds of rural health workers. It has been discussed at great length elsewhere. The circumstances surrounding the so-called shortages are also well understood. It should be realized that specialists as well as general practitioners are involved in supporting an adequate rural health program. General practitioners in rural areas, however, are the doctors on whom the responsibility for instituting good rural medicine will fall.

In discussing the problem with lay groups, changing condition were explained. It was pointed out that good highways, wider telephone service, and centralization of medical services in county seats, had changed the picture of medical practice. From the standpoint of time, people are still nearer a physician than they were thirty years ago. In addition, modern therapeutics save much of the physician's time, enabling him to care for more patients per day than was possible twenty years ago. It has been estimated no community in Iowa is more than ten miles from a doctor.

The result of these discussions demonstrated that when the patient group understands our side of the problem many points of contention cease to exist. The need for full discussion still exists, however.

3. Health Education. There is real need for rural health education. It was admitted that our committee should not only be interested in this phase but should initiate some action in this direction. Emphasis should be placed on communicable diseases common to rural areas, needless farm accidents and all important phases of preventive medicine. This could probably be done through a poster program in all rural practitioners' offices, through conferences with and in the Farm Bureau, through radio and television programs designed for farm listening hours, and through a rural health syndicated column in local newspapers.

4. The committee also felt that every county medical society should understand the problems confronting our committee and should cooperate in our aims. Some of this can be done through the news bulletins of the State Society, but some legwork by committee



members and State Society representatives will be necessary.

5. Publicity seems to be the final answer to many of our problems. Often problems about which the public is complaining are in the process of correction. The committee feels every possible avenue of publicity should be exploited in the future.

D. G. SATTLER, *Chairman.*

REPORT OF COMMITTEE ON NECROLOGY

In 1952 we lost 65 members through death. The youngest was 31 years of age; the oldest 96. Will the members of the House please stand as the secretary reads the names of the honored departed.

C. A. BOICE, *Secretary.*

Name	Town	Age
Gael M. Adair, Anita		67
Charles A. Angell, Des Moines		51
Fred L. Blair, Fonda		73
Thomas P. Bond, Des Moines		89
William F. Bowser, Davenport		71
Gates M. Brown, Dayton		78
Henry N. Bruechert, Parkersburg		69
Raleigh A. Buckmaster, Dunkerton		75
Frank H. Clark, Clarinda		75
Frank H. Dierker, Fort Madison		74
Wallace E. Dunlap, Des Moines		74
Francis A. Ely, Des Moines		76
Arthur W. Erskine, Cedar Rapids		67
Clarence N. Freligh, Waucoma		75
Robert J. Galvin, Oelwein		53
Harold I. Gosline, Woodward		64
Isaac L. Gould, Des Moines		58
Harriet S. Hamilton, Council Bluffs		82
Frank H. Hanson, Magnolia		76
Louis H. Heetland, Sibley		84
Henry D. Holman, Mason City		76
Herbert M. Huston, Ruthven		82
Fred J. Jarvis, Oskaloosa		77
Philip C. Jeans, Iowa City		69
Aldis A. Johnson, Council Bluffs		72
Howard H. Johnston, Hampton		59
David H. King, Batavia		77
Edward F. LaForce, Burlington		78
Wallace G. Laidley, Ogden		76
Frank T. Launder, Garwin		83
Arthur L. Lock, Rock Valley		67
David N. Loose, Maquoketa		96
Ernest C. McClure, Bussey		78
Joseph H. McGready, Independence		80
Henry I. McPherrin, Des Moines		65
Edward C. Meggers, McGregor		63
Henry L. Mol, Grundy Center		55
Elmer E. Morton, Manning		80
John E. Norment, Clinton		52
Ernst J. Oesterlin, Mount Pleasant		68
Oscar W. Okerlin, Essex		79
Edward S. Parker, Ida Grove		70
Waldo E. Peschau, Cedar Rapids		59
Burke Powell, Albia		78
Chester L. Putnam, Des Moines		66
Cyrus C. Rambo, Creston		67
Guy P. Reed, Davis City		77
Granville N. Ryan, Des Moines		82
Walter H. Schultz, Schleswig		75
Dan W. Shine, Oelwein		67
James D. Simons, Leon		66
Channing G. Smith, Granger		75

Delmar B. Sollis, Chariton	68
Pearl E. Somers, Grinnell	81
Robert J. Stolley, New London	31
Louis F. Talley, Marshalltown	70
Joseph W. Tyrrell, Des Moines	80
William Van Zanten, Brighton	68
William W. Walvoord, Dunlap	61
Phillip G. Watters, Des Moines	59
William W. West, Clarinda	76
George W. Wilkinson, Iowa City	35
Fred C. Wilson, Colesburg	84
William E. Wolcott, Des Moines	67
Asa O. Wyland, Underwood	85

REPORT OF PUBLICATION COMMITTEE

The 1952 Journal, the largest volume on record, continued to develop its function of informing readers of pertinent professional and political developments.

The Journal repeated its policy of presenting articles delivered at the annual meeting, as well as special articles and case reports of interest contributed by Iowa physicians. The March issue carried the program of the annual meeting. The April issue was prepared by the College of Medicine of the State University of Iowa. The transactions of the House of Delegates were carried in the official July issue. As in previous years, the President's and General Manager's pages were continued.

Mrs. Marilyn C. McLaughlin resigned as assistant editor of the Journal in June. She was succeeded by Joyce Meyer.

The Journal deficit for 1952 was \$7,532.72, a decrease of \$141.47 from 1951. Total expenses for 1952 were \$1,902.92 in excess of expenses for 1951, while total Journal income was increased by \$2,044.39.

Since the Journal's advertising income is based largely on the success of the AMA-conducted State Journal Advertising Bureau in gaining and renewing contracts, its noteworthy efforts should be commended. Each physician can help the Journal by patronizing its advertisers and by mentioning the Journal when buying their products.

The following table shows the publication statistics and comparative publishing costs for the past three years.

	1950	1951	1952
Reading Pages	598	528	604
Advertising Pages	388	444	444
Percentage of Reading Pages	60.6%	54.3%	57.6%
Original Articles	65	68	71
Editorials	65	60	60
Total Journal Expenditure	\$23,280.77	\$25,803.36	\$27,706.28
Total Journal Income	\$16,563.36	\$18,129.17	\$20,173.56
Net Expenditure for Journal	\$ 6,717.41	\$ 7,674.19	\$ 7,532.72
Number State Society Members	2,516	2,463	2,480
Net Expenditure per Member	2.669	3.116	3.026

E. M. GEORGE, *Editor.*

Reports of Special Committees

REPORT OF THE BALDRIDGE-BEYE  
MEMORIAL LOAN FUND COMMITTEE

The Baldridge-Beye Memorial Loan Fund Committee received several applications for loans during the year. At the end of school in June, one applicant had to be turned down and another could get only a portion of the amount requested because the funds were exhausted. During the fall term of 1952, three loans were made after being approved by the Baldridge-Beye Committee. The Board of Trustees de-

termines the amount to be loaned in each case and the financial transactions are carried on entirely by that body. The Baldrige-Beye Committee makes the recommendations only after considering the applicants' needs and other factors.

The following are the applicants and the amounts of loans made to each during the year: Ray Robinson, \$700.00; Charles H. Karr, \$600.00; Ted Welton, \$600.00.

J. W. AGNEW, *Chairman*.

## REPORT OF GENERAL PRACTICE COMMITTEE

The Committee on General Practice has not had an opportunity to meet with any of the other committees of the State Society during the year. We feel, however, we have accomplished a good deal through the Academy of General Practice. Our preceptor program will be set up permanently with the University of Iowa College of Medicine this year.

The chairman of the committee has been in constant contact with the Program Committee, of which he is a member. He has had a large voice in the selection of speakers chosen for the annual meeting. Talks given before the general session are to be directed primarily to the general practitioners. The chairman has also spoken to the senior class at the College of Medicine on the problems of general practice.

J. G. FELLOWS, *Chairman*.

## REPORT OF HEART COMMITTEE

During the past year, the Committee concerned with problems of heart disease has had one meeting with the general manager of the Iowa State Medical Society. This meeting was chiefly for the purpose of orientation. Our discussion was chiefly in regard to the work being carried out and projected by the Iowa Heart Association. It was the feeling of the Committee that there should be better liaison between the medical profession and the voluntary health organizations within the state, and that the members of the Iowa State Medical Society should take a more active interest and be more active participants in these associations. The lay members are vitally interested in their projects and need the help of the medical profession in both direction and execution of good programs. We were able to have the executive director of the American Heart Association write a paper for the *Journal of the Iowa State Medical Society* and this was published in December 1952. The object of this paper was to orient the members of the society in regard to the work of the national association.

It is our recommendation that this committee be continued and that it be made up of members of the medical profession who are officers in the Iowa Heart Association, and in this way, the active work of the Heart Association will be available to the Society by their members who are active in the Iowa Heart Association.

H. W. RATHE, *Chairman*.

## REPORT OF MENTAL HEALTH COMMITTEE

The Committee on Mental Health held two meetings during 1952. The second meeting was held in cooperation with the Legislative Committee in the office of the State Society. At that time, the Legislative Committee asked the Mental Health Committee what it had in mind in the way of legislation for the coming year. After a full discussion of the different problems,

it seemed to be the consensus that the Committee wanted a model commitment law. It also wanted to be sure that the ability to pay entered into the picture at the acute treatment centers. The Committee recommended that care should be provided locally where facilities are available, rather than being referred to the four mental hospitals. It believes it might be well to have clinics set up on a district basis serving several counties.

Other problems which should be studied are those of releases from state institutions and greater uniformity of juvenile court laws.

Members of the Committee agreed to provide speakers on mental health for district meetings of the Iowa Federation of Women's Clubs. It also pledged itself to provide local speakers when possible. It also agreed that it would continue to cooperate very closely with the Iowa Neuropsychiatric Society and the Iowa Society for Mental Hygiene.

J. I. MARKER, *Chairman*.

## REPORT OF SPEAKERS BUREAU COMMITTEE

The activities of the Speakers Bureau in 1952 were centered mainly on lay group meetings, county medical meetings, radio programs, postgraduate courses, and cancer clinics.

There was a decided increase in requests for speakers from lay groups in 1952. Our doctors attended 14 lay meetings and 8 county medical meetings. Requests for speakers are sent to the Speakers Bureau. We have a file containing the names of doctors who will speak at such meetings, their subjects, and reports on their success as speakers. Thus, we can send out a speaker who is qualified on the subject that the group wants discussed. We also try to send out doctors who have to travel the shortest distance to any particular group.

Our health programs are broadcast over WOI, Ames, on Thursdays at 11:15 a. m. and over WSUI, Iowa City, on Tuesdays at 11:45 a. m. The programs are on platters sent to us by the American Medical Association. Each program is 15 minutes long, with 13 programs in a series.

There was one postgraduate course in 1952, sponsored by the Tama, Jasper, Mahaska, Marshall and Poweshiek County Medical Societies. The course was held on March 12 at Grinnell, Iowa; the subject was Arthritis. Speakers were Howard F. Polley, M.D., from the Mayo Clinic and James R. Stack, M.D., of Northwestern University. The expense was shared by the six counties that sponsored the course.

A Cancer Clinic was held in Charles City on November 6. The speakers were Ralph Dorner, M.D., Des Moines, B. M. Black, M.D., of the Mayo Clinic, Cleveland J. White, M.D., Chicago, and M. E. Davis, M.D., also of Chicago. Mrs. Eleanor Carris of the State Department of Social Welfare spoke to the doctors' wives and nurses who were in attendance.

In 1953 we plan to expand our lay activities and to continue our services to county medical societies.

R. B. STICKLER, *Chairman*.

A supplemental report of the Board of Trustees was submitted by Dr. Coffin.

## SUPPLEMENTAL REPORT OF THE BOARD OF TRUSTEES

When we prepared our report for the handbook, we mentioned we had arranged to have a survey made



of the office procedures of the State Society in the hope we might effect some streamlining. Mr. Harvey Sethman, executive secretary of the Colorado State Medical Society, spent three days with us the last of January, studying our constitution and by-laws, visiting the officers and committee chairmen, and investigating personnel practice and office procedures. He then reported fully to the board, and one of his major recommendations was a revision of our constitution and by-laws to draw up clearer channels of authority. Using our governmental plan of organization as a basis, he recommended having three separate and distinct groups such as the legislative (House of Delegates), judicial (the Council), and the executive (officers and trustees).

Following this suggestion, the board of trustees spent three different days in Des Moines going over the constitution and by-laws, being assisted by Barney Myers. In the course of the work, it developed that our articles of incorporation, filed in 1924, had not been kept up to date as they should have been, and after much study, Mr. Myers suggested that the articles should be amended, and when this was done, they could well serve in the place of the Constitution, leaving the by-laws to cover much the same field as our old ones covered.

This decision was not reached without deep study, but it is our feeling this may be the best procedure, and in accord with that, you will soon hear from our Committee on Constitution and By-Laws with a report to that effect.

Certain recommendations made in regard to the Journal have already been put into effect. The trustees are happy to report they have employed Edward Hamilton, Ph.D., formerly assistant professor of English at Drake University, assistant editor. Dr. Hamilton will strengthen our Journal and will be able to help the Society in the preparation of material from time to time by various committees and officers.

Mr. Sethman recommended that instead of publishing the full transcript of our House of Delegates meetings, the secretary and executive secretary be authorized to summarize the proceedings. We present this proposal to you for your consideration. The summary would undoubtedly be easier to read than the long transcript and it would be easier to determine what action was finally taken on each matter presented.

Other suggestions are also being put into effect as fast as practicable when they have seemed worthwhile.

Two years ago the House of Delegates authorized the trustees to set up a pension plan for the employees when it was feasible. The trustees are working on this now and hope to be able to put it into effect before the close of the year. The plan will probably be rather costly.

In connection with operating costs, we submit to you the budget prepared for this year.

For Journal salaries—\$6,600; for printing and engraving—\$18,000; for reprints—\$1,200, or a total of \$25,800. On this we hope to obtain revenue of \$1,200 from reprints and \$16,200 for advertising, so that the net Journal cost will be \$8,400.00.

We expect to break even on the annual session, with income and expenses of around \$7,500.

The Speakers Bureau is expected to cost about \$2,400 for the year.

Medical Service is broken down into salaries—\$5,160.00; travel—\$3,000; printing and miscellaneous

\$2,400; or a total of \$10,560. From this total we expect to reclaim about \$4,200 from Blue Shield which shares Don Taylor's salary and travel expenses. Thus the net cost for the Committee on Medical Service is budgeted at \$6,360.00.

Administrative miscellaneous, which covers travel expense of delegates and office personnel to the AMA meetings, travel expense of president and president-elect, is set at \$4,800.00

We budgeted \$5,400 for office supplies and equipment; \$21,840 for general salaries; \$4,200 for county society services; \$1,200 for travel expense for trustees; \$1,800 for travel expense for the Council; \$1,620 for the Medico-legal committee; \$10,200 for the Legislative Committee; \$4,800 for miscellaneous committees not given a definite figure; \$19,380 for public relations, of which \$2,100 is for the Baldrige-Beye loan fund. The television program also comes under this committee. Taxes and insurance will cost about \$2,400, we estimate, and depreciation and upkeep about \$5,400.

Total expenditures thus amount to \$100,200 as budgeted above. We expect to collect \$102,000 in dues, so that we will have a surplus of \$1,800. This means we expect 2,040 doctors to pay dues this year. This is about the number of dues-paying members of our 2,500 total, the others being life members, physicians in service, residents, and physically disabled doctors who pay no dues but receive all of the advantages of membership.

Dr. Coffin called on Dr. Bernard for a brief report of his activities. Dr. Bernard expressed his pleasure at being given the privilege of reporting to the House. He said that while his title was General Manager, he was more properly an assistant to the President. The position of President now demands such a large amount of time, both as to meetings and the handling of details, that it is impossible for a man in active practice to sacrifice the time required. The General Manager does not make decisions. He takes his directions from the President or Trustees and acts as liaison between the membership and the top organization of the Society. He meets with all committees except the Grievance Committee. He coordinates their work with other committees, assists in planning their programs, and coordinates the State activities with those of the innumerable lay groups throughout the State. Activities in the State Society, both economic and professional, have probably reached an all time high during the past year. Dr. Bernard mentioned the many areas in which he had been called upon for help. He has worked closely with the Legislative Committee, the Osteopathic Committee, Blue Cross and Blue Shield, the Iowa Hospital Association, Farm Bureau, Iowa Federation of Women's Clubs, State Bankers Association, Chamber of Commerce, Extension Service and the Veterinarian Department of Iowa State College. He has also worked with the various departments of the State Department of Health and with the Cancer, Tuberculosis and Heart Associations. He said the distribution of medical care in Iowa is probably the most important problem. The Placement Bureau is trying to solve this, but he feels the local county medical societies could be of more assistance. New county hospitals need the help, advice and support of the medical profession. He felt that local solution was necessary, but offered the assistance of the State Office in every way possible.

Dr. Bernard also discussed the television program, mentioning the help given by the faculty of the College of Medicine. He also told of the fine response to the inauguration of the preceptor program.



Dr. Coffin next called upon Dr. Scanlon for a report on the Medical Education Fund. Dr. Scanlon told of the need for financial help which exists with many of the medical students today. Most of them are married and have families and have insufficient support to obtain their schooling. He asked for loans or contributions from the doctors of Iowa to aid these students. Dr. Scanlon explained the provisions and regulations regarding the educational fund and asked the support of the doctors in Iowa.

Dr. Coffin then continued with the supplemental report of the Board of Trustees, suggesting possibly the time of the annual meeting might be changed to September, rather than April. This concluded his report.

The Speaker next announced the appointment of Reference Committees as follows:

Reference Committee on Constitution and By-laws:

G. V. Coughlan of Council Bluffs, Chairman; Donald C. Conzett of Dubuque; J. D. Conner of Nevada; and K. J. Gee of Shenandoah.

Reference Committee on Resolutions:

C. A. Boice of Washington, Chairman; J. G. Fellows of Ames; C. P. Phillips of Muscatine; H. E. Farnsworth of Storm Lake; and J. B. Thielen of Fonda.

Reference Committee on General Practitioner Award:

Fred Sternagel of West Des Moines, Chairman; T. L. Ward of Arnolds Park; and F. G. Ober of Burlington.

Reference Committee on New Business:

E. B. Howell of Ottumwa, Chairman; E. F. Van Epps of Iowa City; and F. D. McCarthy of Sioux City.

Reference Committee on Reports of Officers:

D. F. Ward of Dubuque; L. C. Nelson of Jefferson; and W. C. Goenne of Davenport.

Reference Committee on Legislation and Public Policy:

George Braunlich of Davenport, Chairman; R. H. Flocks of Iowa City; and J. E. Houlahan of Mason City.

Dr. Smith then referred the reports of officers, including that of the Trustees, to the Reference Committee on Reports of Officers.

The report from the Committee on Constitution and By-laws was called for. Dr. Albright explained that he had not been given much time to study the proposed revisions and while the other two members of his committee favored them, he felt that it would be impossible to act intelligently on the proposed changes in the time allowed. It was finally decided to refer the proposed revisions to the Reference Committee on Constitution and By-laws and let all interested doctors appear and discuss the changes before the Committee.

A supplemental report of the Legislative Committee was presented by Dr. Coleman.

## SUPPLEMENTAL REPORT LEGISLATIVE COMMITTEE IOWA STATE MEDICAL SOCIETY

Mr. Speaker, Members of the House of Delegates and Guests: The Legislative Committee is a standing committee of the House of Delegates which is obligated to carry out the legislative program of the Iowa State Medical Society as outlined by the House of Delegates. The Committee has five members. Two of these, the President and the Secretary of the Iowa State Medical Society are ex officio members. Thus, Dr. Whitaker and Dr. Phillips have been members of the Committee this year. Other members are Dr.

Conner of Nevada, Dr. Billingsley of Newton, and myself, as Chairman. Three years ago, each county medical society was asked to select a legislative contact man to represent the legislative committee at the county level. Our objective in asking for the selection of these legislative contact men was to build our effective state-wide legislative organization. This objective has not yet been reached but great progress has been made. Most of the legislative contact men have been active and cooperative. A few have been ineffective and we are asking that these be replaced.

These last 12 months have been very active ones for the Legislative Committee. Immediately after the state meeting in 1952, a program to get competent individuals to run for both the Senate and the House in the state legislature was instituted. We were especially interested in stimulating the candidacy of physicians and dentists. This program was moderately successful. During the campaign, however, Dr. Parker of Ida Grove, Chairman of the Public Health Committee in the Senate, died. This was a major blow, but Providence was with us, because Dr. Parker was succeeded in the post by Dr. Oltman, a dentist of Storm Lake, who proved to be a very good friend to the medical profession. Just prior to the primary elections, as well as the general election, the Legislative Committee joined with the Legislative Contact Men and the Women's Auxiliary in a "get out the vote" campaign. These efforts were coordinated with those of many other groups. It was gratifying to note that in the presidential election on November 4, there were 1,268,773 votes cast in Iowa as against 1,038,264 votes in the 1948 presidential election. Although this 1952 vote was a new record, less than 75 per cent of the eligible voters actually voted.

The next section of this report deals with the legislative program of the Iowa State Medical Society for the 55th General Assembly, which is still in session. Just a year ago, the problems of the Board of Medical Examiners of Iowa were considered by the House of Delegates. The House recommended the appointment of a Committee to study these problems and make recommendations to the Legislative Committee as to how these problems might be resolved. This Committee was appointed and consisted of Dr. G. V. Coughlan of Council Bluffs, Chairman, Dr. Lee Hill of Des Moines, Dr. Frank Peterson of Cedar Rapids, Dr. Clyde Watts of Marengo and Dr. Willis Fowler of Iowa City. This Committee reviewed in detail the operations of the Board of Medical Examiners, the chairman of the Committee consulted with Dr. Walter Bierring, Commissioner of Health and the Committee reviewed the methods of operation of Boards of Medical Examiners in other states. Recommendations were then drawn up which were presented to the Legislative Committee. The Legislative Committee then submitted them to the Council of the Iowa State Medical Society, to the Board of Trustees of the Iowa State Medical Society and to the Board of Medical Examiners. After approval by these groups, the recommendations were incorporated into a bill which was introduced in the legislature as S.F. 47. This bill contained the following provisions:

1. Increased the membership of the Board of Medical Examiners from 3 to 5 members.
2. Raised the renewal fee for medical licenses from \$1.00 to \$3.00 annually, so to provide adequate funds for the expanded Board.
3. Set up the funds from licenses and renewals in a trust fund to be spent by the Board for its activi-



ties according to a budget approved by the Executive Council of the State of Iowa.

4. Provided an orderly procedure for the investigation of and licensing of D.P. physicians and foreign physicians. This orderly procedure (a) required that the applicant make a declaration of intention to become a citizen (b) gave the Board the right to evaluate the applicant's medical education and (c) gave the Board the right to require an internship in an Iowa Hospital approved by the Board if the Board deemed it necessary.

5. Provided for written, oral and practical examinations by the Board.

6. Provided for a temporary license for residents in training at a reduced fee.

This bill passed the Senate unanimously on February 19, 1953. The fine cooperation of Dr. Oltman, Chairman of the Senate Public Health Committee and the energetic activity of Mr. I. W. Myers, our legal counsel, were largely responsible for this success. The bill then went over to the House where difficulties were encountered in the Public Health Committee, the Steering Committee and the Sifting Committee. These difficulties were due in large measure to the opposition of the Commissioner of Health to certain portions of the Bill. A compromise was finally worked out, however, which modified the trust fund section so that the Board was given an annual budget of \$14,100 a year for the next two years. The Board of Medical Examiners believed that this compromise would permit the Board to operate effectively, so the bill passed the House early in April and was signed by the Governor a few days later. Passage of this bill required the utmost effort on the part of the legislative contact men, the Board of Medical Examiners, the Administrative Staff of the Iowa State Medical Society, the Legislative Committee and Mr. Myers. Innumerable letters and telegrams were sent, many personal contacts made and many luncheons and dinners held for the members of the Legislature.

There were a number of other things before the Legislature that were of interest to the physicians of Iowa. Since the legislative session is still in progress, a full report cannot be made on them. The next portion of the report will deal with some of them, however.

The Governor named Dr. E. G. Zimmerer, Director of the Division of Cancer Control of the Iowa Department of Health, to succeed Dr. Bierring as Commissioner of Health. Dr. Zimmerer has been confirmed by the Senate.

S.F. 31 and H.F. 293. These bills would provide for payment of hospitalization for indigent patients in county hospitals from the county poor fund. This bill has passed the House but is still on the Senate calendar.

H.F. 390. This bill authorizes associations such as the Iowa State Medical Society to set up insurance plans, including health and accident insurance plans provided at least 50 per cent of the insurable members join the plan. This bill has passed both the House and Senate and is now law.

S.F. 234. This bill relates to the use of dead bodies for scientific purposes. Under this new bill, the Commissioner of Health allocates the bodies. The faculty at the Medical School is very interested in this bill. It is on the Senate calendar and has not yet passed the House.

S.F. 235. This bill relates to the consent for autopsy

and to the disposal of dead bodies. It passed the Senate without a dissenting vote, but was defeated yesterday in the House.

S.F. 335. This bill permits county hospitals to employ collectors to collect their accounts. The bill has passed both the Senate and House.

H.F. 179. This bill raises the payments under Workman's Compensation from \$28 to \$31 per week and raises limits on medical care and hospitalization from \$2,500 to \$3,000. This bill has passed the House and is now in the Senate. It may pass.

Several bills to make public names on roles of old age assistance, aid to dependent children and aid to the blind have passed the House and are on the Senate calendar as an amendment to the appropriation bill.

H.F. 91. This bill retains the state income tax at the present 9/4 level. It has passed the House and is now on the Senate calendar.

Another activity of the Legislative Committee has been the development of close liaison with the Congressmen and Senators from the State of Iowa. Last fall, Mr. Myers and I met with several Congressmen while they were home in between sessions of Congress. We had a particularly pleasant visit with Mr. Martin of Iowa City who is one of the most articulate supporters of veterans programs. We expressed to him the concern of the physicians of Iowa over the treatment of non-service connected illnesses in veterans' hospitals and we pointed out the desirability of expansion of the home care program including hospitalization for veterans.

Then on March 16, Mr. Myers, Dr. Whitaker and I met in Washington with our Congressmen and Senators. Only one Congressman was absent and he was back in Iowa making a speech. This meeting was extremely friendly and we had the feeling that we had achieved excellent liaison with these legislators.

The next portion of the report deals with national legislative problems. Some 500 bills pertaining to health have been introduced in the Congress since January 1, 1953. Of these, only a few have been considered. These include:

1. President Eisenhower's reorganization Plan No. 1, which provides for a new department of Health Education and Security was activated early in April. Only time will tell whether this is a desirable plan or not.

2. S.J. Resolution No. 1, the Bricker resolution. This resolution would prevent legislation, through convention or treaty, and would require all legislation to be enacted by Congress.

3. The Reed-Keough Bills. These would permit self employed persons, including physicians, to set up their own retirement plans, taxable only when the retirement funds are used.

There seems to be little likelihood of favorable consideration of legislation where federal aid is involved, such as federal aid to medical education and public health units.

Your Legislative Committee wishes to express its appreciation to the administrative officers of the Iowa State Medical Society, Miss McCord, Dr. Bernard, and Mr. Don Taylor, for their untiring efforts on the legislative program, to the Secretarial Staff of the Iowa State Medical Society for the numerous letters and bulletins, to the legislative contact men for their many visits and phone calls with legislators and to Mr. I. W. Myers for a highly successful job as legal counsel. In closing, I think we have made some friends among



the legislators and have improved our relations with the public during the past year.

F. C. COLEMAN, M.D., *Chairman*  
 ALLAN B. PHILLIPS, M.D.  
 BEN T. WHITAKER, M.D.  
 JOHN W. BILLINGSLEY, M.D.  
 JOHN D. CONNER, M.D.

April 26, 1953

Dr. Bierring was allowed the privilege of the floor to make some statements in disagreement with those in the report and the report was then referred to the Reference Committee on Legislation and Public Policy.

The Speaker called for the supplemental report of the Committee on Medical Education and Hospitals. This was given by Dr. Conzett and was referred to the Reference Committee.

The Committee on Medical Education and Hospitals this past year absorbed a former special committee whose function was to establish better relationship between the Society and the State University Medical School, and whose specific objective was to give whatever aid was possible toward securing a Dean for the school. This project was the goal toward which your committee directed its efforts. The committee, consisting of Doctors Harold Entz, George H. Scanlon, Lee F. Hill, John H. Randall, and Donald C. Conzett, met on several occasions. Smaller groups of the committee likewise met with the President of the Board of Education. Most of the members of that board, the Dean's committee, and Dr. Whitaker and the chairman conferred with the Chairman and Secretary of the Council on Medical Education and Hospitals of the A. M. A. The committee likewise had fruitful conferences with the officials of the Farm Bureau, at their invitation.

Although your committee had nothing to do with the final selection of a Dean, nor was their counsel sought in this regard, we are nonetheless delighted that the vacancy has been filled and we feel that a happier relationship exists between the School and the Society. We further believe that assurance may be given the University officials that every possible means of cooperation will be given the new Dean in his assignment.

Dr. Olsen was called upon to give a report on Medical Insurance. His report was as follows:

Iowa Medical Service has continued to make substantial progress during the past year. The membership has been increased by approximately 80,000, reaching a total at the end of the year of 390,000.

A similar rate of gain is being maintained during the current year. The membership standing as of March 31 is 411,000.

The earned income for the year arose to approximately 3.5 million dollars, increasing by \$707,000 over the corresponding figure in 1951.

Payments to physicians during the year totaled \$2,748,000 as compared with \$2,173,000 for the preceding year.

Stated in percentages, the claims paid for earned income was 82.1 per cent as compared with 81 per cent for 1951 and 71.69 per cent for 1950. This upward trend in utilization and claim costs for Iowa Medical Service parallels that of prepayment plans generally; and while we managed to set up the usual and necessary reserves, including the 5 per cent contingency reserve, it left a narrow margin of 0.4 per cent for addition to surplus. An adjustment in premium rates to benefits provided has been clearly indicated.

Except for minor changes, our plan has remained virtually static, and with the original provisions almost intact. There has been growing a rather insistent urge from the subscribers for increased and enlarged benefits more nearly to meet our program of full service. Some segments in our profession feel that they share little, if any, in the program; others hold that the fees paid are inadequate, and that in cases our schedule is made to apply to many whose incomes exceed the level provided for full service.

In revising some provisions of the Blue Shield contract your Board has constantly kept in mind the profession's original and primary purpose of supplying medical care for persons in the low and moderate income brackets. It has attempted to keep the profession fully informed on suggested changes, and to ascertain the wishes and thinking of the profession, particularly with reference to the income level.

We hope that our Blue Shield will carry on successfully under the revisions which have been proposed, and to this end we bespeak the continued and wholehearted support of the profession, so freely given in the past.

The Speaker referred Dr. Olsen's report to the Reference Committee.

The Report of the Committee on Necrology was read, the House standing in tribute as this was done.

Dr. Braunlich presented a report from the delegates to the American Medical Association, discussing the June meeting held in Chicago and the December meeting held in Denver. Dr. Caughlan reported on the special meeting of the House of Delegates held in Washington, March 14. Both of these reports were accepted by the House.

The supplemental report of the Historical Committee mentioned the fact that there had been a few errors in the Centennial Volume. These are being corrected and a small supplement will probably be issued to be placed with the Centennial Volume so that it will be accurate.

Dr. C. P. Phillips of Muscatine presented a supplemental report from the Committee on Maternal and Child Health. He mentioned the survey of maternal deaths which is being made. The chief purpose of the investigation is educational and it is an attempt to improve obstetrical technic in the state. Some of the material has proved an eye-opener to members of the special committee who study these reports and it has proved most useful in the teaching of obstetrics at the University. Dr. Phillips also mentioned the fact that adoption procedures have been discussed with state and private agencies, that care of the premature infant had been studied and the school health problem was being worked upon.

Under new business, Life Memberships were granted to the following persons:

Cerro Gordo County	H. W. Barbour, Mason City
	G. M. Crabb, Mason City
Clayton County	W. H. Thomas, McGregor
Clinton County	W. M. Walliker, Clinton
Dubuque County	J. B. Heles, Dubuque
Greene County	J. M. Jackson, Jefferson
Iowa County	E. L. Hollis, Marengo
Linn County	L. M. Downing, Cedar Rapids
Lucas County	J. B. Robb, Chariton
Polk County	O. W. King, Des Moines
	R. A. Weston, Des Moines
Scott County	A. B. Kuhl, Sr., Davenport
Calhoun County	C. T. Farlow, Farnhamville
	C. I. Taylor, Pomeroy



Cass County	R. L. Barnett, Atlantic
Clinton County	H. B. Brumer, Clinton
Dallas-Guthrie County	P. W. Beckman, Perry
Dickinson County	F. L. Roberts, Spirit Lake
Dubuque County	R. C. Sherman, Farley
Johnson County	M. E. Barnes, Iowa City
Pottawattamie County	E. C. Weir, Council Bluffs
Woodbury County	E. J. Raw, Pierson
Wright County	H. P. Walker, Clarion

An invitation from the Vocational Rehabilitation Division to attend its annual meeting at the Savery, April 29, 30 and May 1, was extended through Dr. Phillips.

Following a recess for dinner, the House reconvened and resolutions were presented and were referred to various Reference Committees. A resolution honoring Dr. Bierring for his contributions to Iowa medicine, his services for improvement of health of the people of Iowa, and the honors he has brought to Iowa was passed unanimously by the House.

The meeting adjourned at 7:45 p.m.

### WEDNESDAY MORNING SESSION

April 29, 1953

The meeting was called to order at 7:40 a.m. by Dr. Eugene Smith, Speaker. Roll call showed 106 delegates and 12 officers present for a total of 118. Minutes of the Sunday night session were read and approved. Dr. Farnsworth was then called upon to give the report of the Nominating Committee. It was as follows:

President-elect: G. V. Caughlan, Council Bluffs; G. H. Scanlon, Iowa City; George Braunlich, Davenport.

First Vice President: C. A. Boice, Washington.

Second Vice President: C. A. Henry, Farson.

Trustee: L. A. Coffin, Farmington.

Speaker: Herman J. Smith, Des Moines.

Vice Speaker: C. P. McHugh, Sioux City.

#### District Councilors

- |   |                            |
|---|----------------------------|
| 1 | A. F. Fritchen, Decorah.   |
| 2 | C. O. Adams, Mason City.   |
| 7 | E. F. Van Epps, Iowa City. |
| 9 | E. B. Howell, Ottumwa.     |

Delegates to AMA: Floyd M. Burgeson, Des Moines; T. D. Kas, Sutherland; D. F. Ward, Dubuque.

Alternate Delegate to AMA: F. C. Coleman, Des Moines.

Following the report, Dr. Van Epps gave a few remarks in regard to the nomination of Dr. Ward of Dubuque for delegate to the AMA, mentioning the work he had done for the State Society. Dr. Kas withdrew his name as nominee for delegate and Dr. Scanlon withdrew his from the nomination for President-elect.

Tellers were appointed and votes for President-elect were cast. They showed that Dr. Caughlan was elected by a majority. Dr. Braunlich moved that the election of Dr. Caughlan be made unanimous and this was done. Dr. Caughlan was escorted to the rostrum and addressed the House.

It was then moved that the By-laws be set aside and the Secretary be instructed to cast the unanimous ballot of the House for the other offices which had only one candidate proposed. This was done and the Secretary cast the ballot. Balloting was next done for the delegate to the AMA and Dr. Ward was elected. Dr. Burgeson moved that his election be made unanimous and this was done. Dr. Coleman was also unanimously elected as alternate delegate.

The Reference Committee on General Practitioner's Award announced that Dr. Pierre Sartor of Titonka was chosen for 1953.

Dr. D. F. Ward presented the report of the Reference Committee on Reports of Officers as follows:

### REFERENCE COMMITTEE ON REPORTS OF OFFICERS

The Reference Committee on Reports of Officers met and reviewed the reports as given in the Handbook and, with few exceptions as noted below, accepted all reports.

It was felt by the Committee that the Treasurer's Report was rather vague or ambiguous in part but, in discussion with the General Manager, the Committee was informed that a new and simplified accounting procedure is to be instituted. The Committee therefore feels that this will be more informative and will constitute a vast improvement in the clarification of the financial condition of the Society.

The question was raised concerning changing the date of the Annual Meeting as proposed in the Supplementary Report of the Board of Trustees. After much discussion, it was felt that the April date selected for the Annual Meeting is to be much preferred to a Fall meeting. In view of the arguments proposed for a change in the meeting, it was felt that the rural areas were least busy during April, that September would interfere with planned vacations and also that many other meetings were scheduled for the Fall months. It is therefore the opinion of the Committee that the meeting should remain as heretofore.

W. C. GOENNE, M.D.

L. C. NELSON, M.D.

D. F. WARD, M.D.

It was voted that the report should be accepted as presented.

Dr. Braunlich next gave the report of the Reference Committee on Legislation and Public Policy.

### REPORT OF REFERENCE COMMITTEE ON LEGISLATION AND PUBLIC POLICY

Your Committee had three proposals referred to it. We conferred with various members of our Society and gave each question careful study.

The first was the supplemental report of the Legislative Committee as given Sunday night.

Your Committee recommends approval of this report. I move that this portion of the report be accepted.

*The motion was seconded, put to a vote and carried.*

Next was the resolution of Dr. W. A. Anderson of Polk County recommending that "the Iowa State Medical Society appoint a special committee to make a thorough study of existing Iowa laws regarding the Coroner system and of the Coroner setup as it is practiced over the state, that this special committee make recommendations for any change or modification in the law that they see fit to the Legislative Committee of this society, and that the Iowa State Medical Society take an active interest in this problem and lend their support to bring about such changes in the law that the committee may recommend and that information regarding proposals and recommendations be sent to all county medical societies. The Iowa State Medical Society should urge all county societies to work with their local state legislators to bring to their attention

the necessity for any recommended changes in the Coroner law."

Your Committee recommends approval of this report and I move the adoption of this portion of our report.

*The motion was seconded, put to a vote and carried.*

The last Resolution was from Dr. C. H. Stark, delegate of Linn County and chairman of our Hospital and Professional Relations Committee. This resolution resolves that the Iowa State Medical Society shall appoint a special committee to study the problems relative to nursing education and service and that this Committee confer and cooperate with other organizations with the same objective.

Your Reference Committee approves of this resolution and I move the adoption of this portion of our report.

*The motion was seconded, put to a vote, and carried. I move the adoption of the report as a whole.*

*The motion was seconded, put to a vote, and carried.*

R. H. FLOCKS, M.D.

J. E. HOULAHAN, M.D.

GEORGE BRAUNLICH, M.D., Chairman

This report is signed by R. H. Flocks, J. E. Houlahan and myself as Chairman. I wish to thank the members of my Committee. Much more work was put into this report than its brevity indicates.

The report of the Reference Committee on Articles of Incorporation and By-laws was next called for. Dr. Caughlan, Chairman, said that by virtue of the Constitution it would be necessary for the House to resolve itself into a general meeting of the Society and he moved it do so. *The motion was seconded, put to a vote, and carried.*

Dr. Whitaker then assumed the floor. He called upon Mr. Myers, legal counsel to explain the reasons for changing the Articles of Incorporation. Mr. Myers said that the old Articles of Incorporation were prepared as of February 7, 1924. He saw them for the first time in March of this year. Articles of Incorporation are the controlling factor and if they do not give the Society the power to do certain things, the Society cannot do them. By-laws which might be in conflict with the Articles would have no force. He mentioned the fact that the Society has grown materially since 1924 and that it faces many new responsibilities. It also faces many tax problems. It faces legislative problems.

He said that the Committee and the officers had spent a great deal of time in considering the proposed changes and that he could not conscientiously recommend that they do otherwise than make many of the changes recommended.

Mr. Myers asked permission of the House to read only the changes which the Reference Committee made in the mimeographed copy of the Articles of Incorporation. This permission was granted and Mr. Myers read the changes recommended by the Reference Committee and answered questions of the House regarding them. After a full discussion it was moved that the new Articles of Incorporation as amended and reported by the Reference Committee be adopted.

A standing vote was taken, with 113 affirmative votes being cast and only one negative vote being recorded. The report of the Reference Committee was therefore accepted. (Since a copy of the new Articles and the By-laws is to be mailed to every member, the report will not be included here because of its bulk.)

At this point the Committee recessed to attend the Scientific Sessions and reconvened at 12:00 o'clock.

Mr. Myers then read the By-laws with the correc-

tions made by the Reference Committee. These were accepted by a standing vote of 95 affirmatives and no negative votes. The report of the committee was then accepted by the House and the Committee was discharged.

It was voted to send a copy of the new Articles and By-laws to every member of the State Society.

The Report of the Reference Committee on New Business was next called for and Dr. Van Epps reported as follows:

### RESOLUTION ON THE APPOINTMENT OF A COMMITTEE TO STUDY GROUP INSURANCE PLANS

WHEREAS, Insurance companies write group insurance plans for life, health and accident, and liability insurance, and

WHEREAS, Numerous professional groups have adopted such plans to the marked benefit of members of such groups, and

WHEREAS, Members of the Iowa State Medical Society have expressed interest in such plans in times past, and

WHEREAS, They were prevented from organizing such plans because of the lack of enabling legislation, and

WHEREAS, Such enabling legislation has just been enacted by the General Assembly of the State of Iowa; therefore be it

*Resolved*, That the House of Delegates approve the appointment of a committee to study such plans, and be it further

*Resolved*, That this committee determine the interest of the members of the Iowa State Medical Society in such plans, and be it further

*Resolved*, That this committee make a report, with recommendations, to the House of Delegates at its next annual meeting.

The Reference Committee recommends this resolution be adopted.

*The motion was seconded, put to a vote, and carried.*

The Bremer County Medical Society instructs its delegates to propose to the House of Delegates of the Iowa State Medical Society that that body pass a resolution assuring the newly appointed Dean of the Medical School of full support and cooperation in the performance of the duties of his position.

The Reference Committee recommends that the resolution be adopted.

*The motion was seconded, put to a vote and carried.*

WHEREAS, The Veterans Administration is draining the supply of graduate nurses from private institutions through high salaries, retirement pay, longer vacations with pay and other inducements, and

WHEREAS, These nurses are being paid higher salaries with tax money in competition with private enterprise of private hospitals, and

WHEREAS, These nurses have been trained at great expense in private hospitals, the medical profession feels this situation should be changed; therefore be it

*Resolved*, That the Iowa State Medical Society appoint a committee to study this problem and that a request be made to the American Medical Association also to study this problem in regard to the desirability of the Veterans Administration's establishing schools of nursing in connection with these Veterans Hospitals to help correct the shortage of nurses as it exists in all hospitals today.

The Reference Committee recommends adoption of



this resolution, and reference of the matter to the Committee on Medical Education and Hospitals.

*The motion was seconded, put to a vote, and carried.*

WHEREAS, At the last meeting of the Woodbury County Medical Society the motion was passed that the delegates to the State Meeting convey the wishes of our Society to the State Society in regard to the Aid to Dependent Children problem, and

WHEREAS, All doctors are unhappy with the operation and practice of the A.D.C., and

WHEREAS, No surgical fees are allowed in the present A.D.C. setup, and

WHEREAS, The patient gets the money, the doctors rarely so, and

WHEREAS, Inasmuch as several surrounding states have setups whereby the doctor is paid directly and whereby surgical fees are paid; therefore be it

*Resolved*, That the setup in this state be changed along these lines.

The Reference Committee recommends approval for adoption of this resolution with the instruction to refer it to the Legislative Committee of the State Society with authority to act.

*The motion was seconded, put to a vote, and carried.*

WEBSTER COUNTY MEDICAL SOCIETY  
FORT DODGE, IOWA

WHEREAS, It has been the intent and purpose of the federal government to provide disabled military veterans with proper medical and surgical care, and

WHEREAS, Studies of current Veterans Hospital general medical and surgical census figures indicate that a large number of hospital beds are being occupied by patients having nonservice connected disabilities, and

WHEREAS, There is reason to believe that many of these patients have gained admission through misrepresentation of their financial status and are therefore occupying Veterans Administration beds through fraud, and

WHEREAS, Current directives prevent Veterans Administration officials from taking appropriate remedial measures, and

WHEREAS, The Veterans Hospital in Iowa City is included in these practices and is currently using indirectly the staff, faculty, and student body of the Medical College of the University of Iowa in carrying out its program, now therefore be it

*Resolved*, That it is the sentiment of the House of Delegates of the Iowa State Medical Society that the Medical College of the State University of Iowa should be completely disassociated from the Veterans Administration Hospital in Iowa City at the earliest possible time until it can be clearly demonstrated that all irregular or strained interpretations of "medical indigency" on the part of the Veterans Administration patients have been permanently eliminated, and be it further

*Resolved*, That our delegates to the House of Delegates of the American Medical Association be informed of our action and be requested to institute resolutions favoring appropriate corrective legislation at the national level.

The reference committee recommends that Part I be referred to the Committee on Medical Education and Hospitals and recommends that Part II be adopted by the House of Delegates.

*The motion was seconded, put to a vote, and carried.*

The Report of the Committee as a whole signed by

Drs. Howell, Van Epps, and McCarthy was then accepted as presented.

The Report of the Reference Committee on Resolutions was presented by Dr. Boice and after some discussion was amended as follows and was accepted:

## AMENDED REPORT OF THE COMMITTEE ON RESOLUTIONS

The primary object of the medical profession is the good of the patient and the public. To this end we have, for years, advocated increased educational requirements for those desiring to enter the practice of the healing art. There are those who believe that the care of the sick can be accomplished successfully with a decreased amount of education. With this we cannot agree. It is our firm belief that only those who have had intensive training in the fundamentals of medicine should be given the responsibility of human life. These fundamentals include intensive laboratory training; intensive clinical training; and continued efforts to advance medical knowledge.

The title which any practitioner of the healing arts may have does not concern us. Our only concern is, as stated above, a thorough grounding in the present knowledge of the application of medicine. We advocate that the governing boards of hospitals, particularly those which are tax-supported, give very careful consideration to the type of practitioners whom they permit to work in their institutions and that, having given the right to practice, careful supervision should be continued to insure the patient adequate care, and definite laboratory procedure should not be overlooked. These procedures help greatly in the diagnosis and treatment of the patient's condition and insure a more speedy and more certain relief from symptoms.

Under Iowa law, there exist colleges for training two different classes of medical practitioners. It is our belief that careful supervision should be given these institutions that they shall give the students the highest type of education attainable. Bearing in mind again that it is not the rights of any type of practitioner with which we are concerned, but it is in an effort to give the people in the State of Iowa the highest type of medical practice that is possible.

Therefore, the Iowa State Medical Society should continue to support the ethical stand which is outlined above. Second, that there shall be made a careful investigation of the relative merits of these two types of schools, the prerequisites of each for the admission of students and the preparation of these students for the care of the sick. Third, there should be careful and continuous investigation of the type of practice carried on in these various hospitals; that is, by complete records, including history of the patient, the various laboratory procedures which are required, and the results which they obtain from this treatment. The Iowa State Medical Society is perfectly willing to take part in this sort of investigation and assures the public that the members thereof are willing, to the best of their several abilities, to carry out those procedures which tend to give the patient entrusted to their care the highest type of medical service.

Respectfully submitted,  
Committee on Resolutions  
C. A. BOICE, M.D., *Chairman*

Dr. Caughlan introduced the following resolution:  
Before introducing this resolution I will read from the



Principles of Medical Ethics of the American Medical Association:

"A physician should expose without fear or favor incompetent or corrupt, dishonest or unethical conduct on the part of the members of the profession. Questions of such conduct should be considered first before proper medical tribunals in executive session or by special or duly appointed committees on ethical relations, provided such a course is possible, and provided also that the law is not hampered thereby."

I move that the Iowa State Medical Society reaffirm the principles contained in the medical ethics of the American Medical Association, Chapter III, Section 4, page 11, and that county societies take disciplinary action against members guilty of this section of the Ethics; and further, that the Iowa State Medical Society instruct the delegates to the American Medical Association to introduce a resolution containing the same features regarding any physician guilty of such violation of medical ethics.

*The motion was seconded, put to a vote, and carried unanimously.*

Dr. J. T. McMillan introduced another resolution as follows:

WHEREAS, Dr. Arthur Erskine was a prominent radiologist in Iowa for many years, and

WHEREAS, He was a past president of the Iowa State Medical Society, and

WHEREAS, He served for many years as secretary of the Iowa X-Ray Club and the Iowa Division of the American Cancer Society, and

WHEREAS, The Iowa X-Ray Club and the Iowa Division of the American Cancer Society and many friends are interested in contributing to it, now therefore be it

*Resolved*, That an annual Lectureship, to be known as the Erskine Memorial Lecture, be established and made a permanent feature of the program of the general sessions of this Society.

RUSSELL W. BLANCHARD, M.D.

H. W. MORGAN, M.D.

B. T. WHITAKER, M.D.

This resolution was accepted by vote.

Dr. Howard Smith then presented a resolution that a committee be appointed to study and present to the Executive Council ways and means whereby the Iowa State Department of Health will be given the impetus to investigate and find ways and means of preventing the use of therapeutic drugs by the osteopathic profession. This resolution also received the approval of the House.

It was voted that the 1955 meeting should be held in Des Moines. The meeting adjourned about 2:00 p.m.

## BOOK REVIEWS

Additional Book Reviews on pp. 278, 279 and 281.

FUNCTIONAL ENDOCRINOLOGY FROM BIRTH THROUGH ADOLESCENCE, by *Nathan B. Talbot*, (Harvard Press, Cambridge, Mass., 1952. \$10).

This splendid volume is properly titled for it does much more than present the usual glandular disturbances of childhood. It places emphasis on the function of the endocrine glands in maintaining health and their response to the disturbed physiology of disease. The text is fundamentally modern physiology and the role of the endocrine-controlled systems upon the homeostatic balances of the body.

The material is presented in an orderly manner. Each endocrine gland is considered from the point of view of basic physiology, diagnosis and treatment. The text is replete with charts, diagrams and illustrations to clarify the subject matter. Electrolyte values are expressed in milliequivalents per liter rather than in milligrams per cent. All dosages are expressed in milligrams per square meter of body surface.

This is a stimulating and informative volume that is recommended with enthusiasm. It is a must for the student or physician who would know the role of the endocrines in maintaining water and electrolyte balances. It is a book which must be studied and not just read, but it gives the student a sound basis for the understanding and the treatment of the sick child.

—D. H. Kelly, M.D.

ENDOCRINE TREATMENT IN GENERAL PRACTICE, edited by *Max A. Goldzieher*, M.D. and *Joseph W. Goldzieher*, M.D. (Springer Publishing Co., New York, 1953. \$8).

This book is well titled. Essentially it is written to aid the practitioner in the diagnosis and management of usually poorly-understood problems involving the endocrine systems. Thus, it is not a text for medical schools with detailed physiological descriptions and long bibliographies. Indeed, this edition is notable for its blessed freedom from bibliography.

One can find quick and concise advice on how to ferret out the diagnosis in a puzzling case, and this advice is followed by a review of the most practiced method of treatment. An added useful feature, preceding the index, is a list of the currently available hormone preparations. In the text itself the contributing authors do not hesitate to state which preparations they find most effective.—A. G. Lueck, M.D.

MONOGRAPHS IN MEDICINE Series I, edited by *Wm. B. Bean*, M.D. (Williams & Wilkins Co., Baltimore, 1952. \$12).

The aim of this new series of collected monographs is to "provide a series of articles varying widely but in fields germane to general medicine." The present volume includes fifteen monographs, each excellently written, on subjects ranging from "Precordial Noises Heard at a Distance from the Chest" to "The Growth and Maturation of the Erythrocyte." Most of the articles are designed to bring us up to date on the particular topic discussed. They are digested experiences of widely known authorities on their pet subjects.

This collection is quite similar to another series, "Advances in Internal Medicine." Books of this type are excellent reading material, but poor reference works. It is difficult to recall which articles are included in the collection when the subjects are so heterogeneous. The situation is somewhat akin to that of the medical journal in this regard. The principal advantage of collections of this sort is that they help to give the reader an authoritative and timely concept of a given subject. Perhaps for the busy practitioner, books of this sort would be preferable to the journals when time has to be zealously husbanded.—Daniel A. Glomset, M.D.



# IOWA STATE MEDICAL SOCIETY

## Officers and Committees, 1953-1954

President ..... Robert N. Larimer, Sioux City  
 President-Elect ..... Gerald V. Caughlan, Council Bluffs  
 First Vice President ..... Clyde A. Boice, Washington  
 Second Vice President ..... Clyde A. Henry, Farson  
 Secretary ..... Allan B. Phillips, Des Moines  
 Treasurer ..... N. Boyd Anderson, Des Moines  
 Speaker of House of Delegates, Herman J. Smith, Des Moines  
 Vice Speaker of House of Delegates,  
 Charles P. McHugh, Sioux City

### COUNCILORS

	Term Expires
First District—Arthur F. Fritchen, Decorah	1955
Second District—Carroll O. Adams, Mason City	1956
Third District—Matthew T. Morton, Estherville	1954
Fourth District—Paul W. Brecher, Storm Lake	1955
Fifth District—Ernest M. Kersten, Fort Dodge	1954
Sixth District—Otis D. Wolfe, Marshalltown	1955
Seventh District—Eugene F. Van Epps, Iowa City	1956
Eighth District—Clyde A. Boice, Washington	1954
Ninth District—Elias B. Howell, Ottumwa	1956
Tenth District—Ivan K. Sayre, St. Charles	1954
Eleventh District—Oscar Alden, Red Oak	1955

### TRUSTEES

Lonnie A. Coffin, Farmington, Chairman	1956
John W. Billingsley, Newton	1954
Wendell L. Downing, LeMars	1955

### DELEGATES TO AMA

Gerald V. Caughlan, Council Bluffs	January 1, 1954
George Braunlich, Davenport	January 1, 1955
Donald C. Konzett, Dubuque	January 1, 1956

### ALTERNATE DELEGATES TO AMA

	Term Expires
Donovan F. Ward, Dubuque	January 1, 1954
Frank G. Ober, Burlington	January 1, 1955
Otis D. Wolfe, Marshalltown	January 1, 1956

### EXECUTIVE COUNCIL

Robert N. Larimer, Chairman	Sioux City
Gerald V. Caughlan	Council Bluffs
Clyde A. Boice	Washington
Allan B. Phillips	Des Moines
N. Boyd Anderson	Des Moines
Lonnie A. Coffin	Farmington
John W. Billingsley	Newton
Wendell L. Downing	LeMars
Arthur F. Fritchen	Decorah
Carroll O. Adams	Mason City
Matthew T. Morton	Estherville
Paul W. Brecher	Storm Lake
Ernest M. Kersten	Fort Dodge
Otis D. Wolfe	Marshalltown
Eugene F. Van Epps	Iowa City
Clyde A. Boice	Washington
Elias B. Howell	Ottumwa
Ivan K. Sayre	St. Charles
Oscar Alden	Red Oak
Gerald V. Caughlan	Council Bluffs
George Braunlich	Davenport
Donald C. Konzett	Dubuque

### THE JOURNAL

Everett M. George	Des Moines
-------------------	------------

## Standing Committees of the House of Delegates

### COMMITTEE ON SCIENTIFIC WORK

R. N. Larimer, Chairman	Sioux City
G. V. Caughlan	Council Bluffs
A. B. Phillips	Des Moines
N. Boyd Anderson	Des Moines

### COMMITTEE ON LEGISLATION

F. C. Coleman, Chairman	Des Moines
J. W. Billingsley	Newton
J. D. Conner	Nevada
R. N. Larimer	Sioux City
A. B. Phillips	Des Moines

### COMMITTEE ON NECROLOGY

This committee consists of the Councilors

### MEDICO-LEGAL COMMITTEE

L. K. Meredith, Chairman	Des Moines
E. F. Van Epps	Iowa City
V. C. Robinson	Des Moines

### COMMITTEE ON ARTICLES OF INCORPORATION AND BY-LAWS

G. C. Albright, Chairman	Iowa City
A. B. Phillips	Des Moines
E. H. Sibley	Sioux City

### COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman	West Des Moines
--------------------------	-----------------

#### Subcommittee on Insurance

M. I. Olsen	Des Moines
-------------	------------

#### Subcommittee on Veterans Affairs

R. C. Gutch	Chariton
-------------	----------

### Subcommittee on Hospital and Professional Relations

C. H. Stark, Chairman	Cedar Rapids
D. C. Koser	Cherokee
J. E. Tyrrell	Manchester
J. H. Henkin	Sioux City
W. K. Cooper	Cedar Rapids

### Subcommittee on Medical Services to the Indigent

F. D. McCarthy, Chairman	Sioux City
A. J. Havlik	Tama
M. G. Bourne	Algona
G. W. Cusick	Davenport

### COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

B. T. Whitaker, Chairman	Boone
E. M. Kersten	Fort Dodge
L. F. Hill	Des Moines
J. H. Randall	Iowa City
G. H. Scanlon	Iowa City

### GRIEVANCE COMMITTEE

L. C. Kuhn	Decorah
S. P. Leimbach	Belmond
T. L. Ward	Arnolds Park
J. M. Krigsten	Sioux City
L. D. Powell	Des Moines
F. N. Cole	Iowa Falls
J. W. Lawrence	Dubuque
G. H. Ashline	Keokuk
E. A. Larsen	Centerville
H. G. Beatty	Creston
C. H. Flynn	Clarinda

### COMMITTEE ON PUBLIC HEALTH

E. A. Larsen, Chairman	Centerville
------------------------	-------------

*Subcommittee on Cancer*

E. G. Zimmerer, Chairman	Des Moines
J. R. Dewey	Schaller
H. W. Morgan	Mason City
V. W. Petersen	Clinton
W. J. Balzer	Davenport
S. F. Singer	Ottumwa
K. R. Cross	Iowa City
J. D. Hennessy	Council Bluffs

*Subcommittee on Geriatrics*

W. D. Paul, Chairman	Iowa City
Abraham Gelperin	Des Moines
C. V. Edwards	Council Bluffs

*Subcommittee on Rehabilitation*

C. B. Larson, Chairman	Iowa City
C. O. Adams	Mason City
D. C. Wirtz	Des Moines
W. M. Krigsten	Sioux City
H. H. Samberg	Des Moines

*Subcommittee on Maternal and Child Health*

C. P. Phillips, Chairman	Muscatine
R. M. Collins	Council Bluffs
H. A. Weis	Davenport
H. E. Farnsworth	Storm Lake
O. A. Stauch	Sioux City
L. F. Hill	Des Moines
C. A. Hanson	Waterloo
Madelene Donnelly	Des Moines

*Subcommittee on Mental Health*

J. I. Marker, Chairman	Davenport
H. C. Merillat	Des Moines
L. B. Sedlacek	Cedar Rapids
M. B. Emmons	Clinton
C. C. Graves	Des Moines
J. D. Mahoney	Council Bluffs
G. R. Rausch	Sioux City

*Subcommittee on Industrial Health*

R. F. Frech, Chairman	Newton
T. D. Throckmorton	Des Moines
S. T. Moen	Cedar Rapids
D. W. Coughlan	Des Moines
C. J. Lohmann	Burlington
L. J. Miltner	Davenport
H. A. Amesbury	Clinton

*Subcommittee on National Health Associations*

R. H. Heeren, Chairman	Des Moines
F. T. Top	Iowa City

R. E. Smiley	Mason City
L. E. January	Iowa City
L. J. Galinsky	Des Moines
William Spear	Oakdale

*Subcommittee on Gamma Globulin*

R. H. McBride, Chairman	Sioux City
J. G. Fellows	Ames
M. J. Foster	Cedar Rapids
L. F. Hill	Des Moines

*Subcommittee on Rural Health*

B. F. Howar, Chairman	Webster City
R. S. Jaggard	Oelwein
S. P. Leinbach	Belmond
D. G. Sattler	Kalona

## COMMITTEE ON PUBLIC RELATIONS

O. N. Glesne, Chairman	Fort Dodge
E. H. Files	Cedar Rapids
R. E. Smiley	Mason City
T. W. McMeans	Davenport

*Interprofessional Subcommittee*

J. G. Fellows, Chairman	Ames
F. M. Burgeson	Des Moines
E. J. Boyd	Iowa City

*Subcommittee on Doctor-Patient Relations*

O. N. Glesne, Chairman	Fort Dodge
E. H. Files	Cedar Rapids
C. W. Seibert	Waterloo
W. M. Sproul	Des Moines
T. W. McMeans	Davenport

*Subcommittee on Labor and Industry*

T. D. Throckmorton, Chairman	Des Moines
R. E. Smiley	Mason City

## COMMITTEE ON HEALTH EDUCATION

J. D. Conner, Chairman	Nevada
J. J. Shurts	Eldora
C. D. Ellyson	Waterloo

*Public Education Subcommittee*

D. F. Ward, Chairman	Dubuque
B. T. Whitaker	Boone
W. D. Abbott	Des Moines
T. D. Throckmorton	Des Moines
H. J. Smith	Des Moines
R. B. Stickler	Des Moines

## Special Committees of the House of Delegates

## BALDRIDGE-BEYE MEMORIAL COMMITTEE

J. W. Agnew	Davenport
-------------	-----------

## OSTEOPATHIC COMMITTEE

J. D. Conner, Chairman	Nevada
J. J. Shurts	Eldora
J. M. Rhodes	Pocahontas
T. E. Shea	Storm Lake
C. A. Boice	Washington

## NATIONAL EMERGENCY MEDICAL SERVICE

J. W. Ferguson, Chairman	Newton
E. M. Honke	Sioux City
F. G. Ober	Burlington
W. I. Evans	Sac City
R. P. Rusk	Dubuque
R. C. Hardin	Iowa City

## COMMITTEE ON WOMAN'S AUXILIARY

G. V. Caughlan	Council Bluffs
L. A. Coffin	Farmington
O. D. Wolfe	Marshalltown

## COMMITTEE ON CORONER'S LAW

R. E. Smiley, Chairman	Mason City
F. C. Coleman	Des Moines
W. D. Anderson	Des Moines

## NURSING EDUCATION AND SERVICE

E. P. Lovejoy, Chairman	Des Moines
R. F. Birge	Des Moines
C. V. Edwards	Council Bluffs
J. E. Houlahan	Mason City
J. H. Henkin	Sioux City

## HISTORICAL COMMITTEE

W. L. Bierring, Chairman	Des Moines
Jeannette Dean-Throckmorton	Des Moines
C. A. Henry	Farson
J. T. McClintock	Iowa City
C. L. Jones	Gilmore City
C. A. Boice	Washington
D. L. Long	Mason City



**MEMBERSHIP ROSTER**  
*of the*  
**IOWA STATE MEDICAL**  
**SOCIETY**  
**1953**

**Members in Good Standing**  
**as of**  
**June 15, 1953**

- Aagesen, Carl A., Dows  
 Abbott, Walter D., Des Moines  
 Acher, Albert E., Fort Dodge  
 Acker, Richard D., Waterloo  
 Acker, Wesley H., Waterloo  
 Ackerman, Emma M., Sioux City  
 ★Ackerman, John H., Clarksville  
 Adams, Carroll O., Mason City  
 Adams, Ernest M., Central City (L.M.)  
 Adams, Leon P., Newton  
 Addison, Cornelius P., Waterloo  
 Ady, Albert E., West Liberty  
 Aelits, Eerko S., Sibley  
 Agnew, Fred F., Independence (L.M.)  
 Agnew, James W., Davenport  
 Ahmann, Edward J., Walcott  
 Ahrens, John H., New Hampton  
 Aid, Francis H., Burlington  
 Alberts, Marion E., Des Moines  
 Albright, George C., Iowa City  
 Alcock, Nathaniel G., Iowa City  
 Alden, Oscar, Red Oak  
 Aldrich, J. Frank, Decatur, Illinois (L.M.)  
 Alftine, David C., Muscatine  
 Allen, Hoyt H., Fort Dodge  
 Allen, Marion B., Fort Dodge  
 Allison, Monroe P., Northwood  
 Almquist, Reuben E., Albert City  
 Alt, Louis P., Dubuque  
 Ambery, Sebastian, Keokuk  
 Amesbury, Harry A., Clinton  
 Amick, Lawrence D., Sac City  
 Amick, Louis B., Sac City  
 Amick, Perry P., Des Moines  
 Amlie, Paul J., Waverly  
 Andersen, Bruce V., Greene  
 Andersen, Holger M., Strawberry Point  
 Andersen, Kenneth N., Center Point  
 Anderson, DeWayne C., Stanhope  
 Anderson, Edward E., Davenport  
 Anderson, George S., Iowa City  
 Anderson, Glenn J., Winterset  
 Anderson, Harold N., Des Moines  
 Anderson, James D., Des Moines  
 Anderson, N. Boyd, Des Moines  
 Anderson, Robert E., Chariton  
 Anderson, Stanley N., Onawa  
 Anderson, Walter D., Des Moines  
 Andre, Gaylord R., Lisbon  
 Andrew, Earl V., Maquoketa  
 Anneberg, A. Reas, Carroll  
 Anneberg, Paul D., Carroll  
 Anneberg, Walter A., Carroll  
 Anrode, Ralph A., Davenport  
 Anspach, Ellen E. F., Mitchellville  
 Anspach, Royal G., Colfax  
 Anspach, Royal S., Mitchellville  
 Anthony, Walter E., Ottumwa  
 Arent, Asa S., Humboldt  
 Arkin, Archie A., Des Moines  
 Armitage, George L., Osceola  
 Armstrong, Frederick C., Cascade  
 Armstrong, Max A., Newell  
 Armstrong, Robert B., Ida Grove  
 Armstrong, William B., Ames  
 Arnold, Dorothy J., Iowa City  
 ★Arnold, Keith E., Sioux City  
 Ash, William E., Council Bluffs  
 Ashline, George H., Keokuk  
 Asthalter, Robert W., Muscatine  
 Atkinson, George S., Oskaloosa  
 Austin, Arthur T., Ottumwa  
 Ayers, Emmet V., Charles City  
 Ayers, LeRoy J., Sioux City
- Bacon, John F., Ames  
 Bacon, Joshua E., Jr., Dubuque  
 Bailey, Jesse L., Des Moines  
 Bain, C. Lorimer, Corning  
 Baird, William A., Ames  
 Bairnson, George A., Cedar Falls  
 Baker, Charles J., Fort Dodge  
 Baker, John N., Fort Dodge  
 Baker, Walter E., Des Moines (L.M.)  
 Bakody, John T., Des Moines  
 Baldwin, Leon A., Riverton  
 Balkema, Walter S., Sheldon  
 Baltzell, Winston C., Charles City  
 Balzer, Walter J., Davenport  
 Banks, Keith D., Knoxville  
 Banton, Oscar H., Charles City  
 Barber, Oliver S., West Chicago, Illinois (L.M.)  
 Barbieri, Angelo B., Garwin  
 Barbour, Howard W., Mason City (L.M.)  
 Barg, Egmont H., Mason City  
 Barnes, Bernard C., Des Moines  
 Barnes, Milford E., Iowa City (L.M.)
- Barnett, Reu L., Atlantic (L.M.)  
 Barnett, Sylvester W., Cedar Falls  
 Barr, Guy E., Sioux City  
 Barrett, Milton E., Clinton  
 Barrett, James W., Jr., Independence  
 Barrett, Sterling A., Waterloo  
 Barthel, John P., Cedar Rapids  
 Bartel, Robert M., Waverly  
 ★Bartholomew, Richard D., Lake City  
 Bartlett, George E., New Sharon  
 Bartley, Richard L., Sully  
 Barton, Edwin G., Ottumwa (L.M.)  
 Barton, Robert L., Dubuque  
 Bartruff, Charles H., Reinbeck  
 Bascom, Lewis A., Nora Springs  
 Basinger, Byron L., Goldfield  
 Bastron, Harold C., Red Oak  
 Bates, Ernest G., Aurelia  
 Bates, Maurice T., Des Moines  
 Baumann, James G., Charles City  
 Bausch, Richard G., Cedar Rapids  
 Bay, Frank N., Albion  
 Beal, Arline M., Davenport  
 Bean, Elmer O., Council Bluffs  
 Bean, William B., Iowa City  
 Beardsley, David E., Cedar Rapids  
 Beardsley, Ralph W., Livermore  
 Beatty, Alexander S., Creston  
 Beatty, Edward D., Mallard (L.M.)  
 Beatty, Howard G., Creston  
 Beaumont, Fred H., Council Bluffs  
 Beckman, Charles W., Kalona  
 Beckman, Peter W., Perry (L.M.)  
 Beddoes, Morris G., Waterloo  
 Bedell, George N., Iowa City  
 Beebe, John R., Mt. Pleasant  
 Beebe, Kenneth P., Mt. Pleasant  
 Beeh, Edward F., Fort Dodge  
 Bees, Louis E., Bennett  
 Behrens, George W., Davenport  
 Bell, Edward P., Pleasantville (L.M.)  
 Bell, Robert S., Burlington  
 Bender, Henry A., Waterloo  
 Bendixen, Frederick C., LeMars  
 Benfer, Merrill M., Davenport  
 Bengt, Donald K., Dows  
 ★Bennett, Andrew W., Iowa City  
 Bennett, Geoffrey W., Oskaloosa  
 ★Benton, Jay S., Des Moines  
 Berard, William P., Iowa City  
 Berg, John W., Ames  
 Bergen, Charles T., Hampton  
 Berger, Raymond A., Davenport  
 Berggreen, Raymond G., Mason City  
 Berkstresser, Charles F., Sioux City  
 Bergstrom, Albin C., Missouri Valley  
 Bernard, Ransom D., Des Moines  
 Berndt, Allen E., Cedar Rapids  
 Berney, Paul W., Cedar Rapids  
 Bessmer, William G., Davenport  
 Best, Gordon N., Council Bluffs  
 Bettler, Philip L., Sioux City  
 Beye, Cyrus L., Iowa City  
 Bezman, Harry S., Traer  
 Bickert, J. Norman, Cedar Rapids  
 Bickley, Donald W., Waterloo  
 Bickley, John W., Waterloo  
 Biebesheimer, George A., Reinbeck  
 Bierman, Martyn H., Jr., Council Bluffs  
 Bierring, Walter L., Des Moines (L.M.)  
 Biersborn, Byron M., State Center  
 Bigelow, Charles T., LaGrange, Illinois (L.M.)  
 Billingsley, John W., Newton  
 Binford, William S., Davenport (L.M.)  
 Bird, Raymond G., Clarion  
 Birge, Richard F., Des Moines  
 Birney, Cleanthus E., Estherville (L.M.)  
 Bisgard, Carl V., Harlan  
 Bishop, James F., Davenport  
 Black, Harold C., Des Moines  
 Black, James E., Sioux City  
 Blackstone, Martin A., Sioux City  
 Blaha, George A., Whitten  
 Blaha, Vernon B., Marshalltown  
 Blair, Donald W., Des Moines  
 Blair, James B., Cherokee  
 Blanchard, Russell W., Council Bluffs  
 Blenderman, Albert D., Jr., Paullina  
 Bliss, William R., Ames  
 Block, Charles E., Davenport  
 Block, Lawrence A., Davenport  
 Block, Walter M., Cedar Rapids  
 Blome, Arthur L., Ottumwa  
 Blome, Glenn C., Ottumwa  
 Blong, Theodore E., Stacyville  
 Blum, Aloysius A., Wall Lake  
 Blume, Donald B., Sioux City  
 Blumgren, John E., Vinton  
 Boden, Herbert N., Osceola
- Boden, Worthey C., Sioux City  
 Boe, Henry, Sioux City  
 ★Bogle, Warren C., Marion  
 Boice, Clyde A., Washington (L.M.)  
 Boiler, William F., Iowa City  
 Boller, Galen C., Waterloo  
 Bolton, Thomas C., Sioux City  
 Bond, Thomas A., Des Moines  
 Bone, Harold C., Des Moines  
 Bonfiglio, Michael, Iowa City  
 Borgen, Donald L., Gowrie  
 Borre, Helge, Walker, Minnesota  
 Borts, Irving H., Iowa City  
 Bos, Howard C., Oskaloosa  
 Bosch, Calvin C. F., Sibley  
 Bossingham, Earl N., Clarinda  
 Boston, Burr C., Waterloo  
 Bosworth, Wesley F., Norwalk, California  
 Boughn, J. Kent, Mapleton  
 Bouden, Roger W., Lenox  
 Boulware, Lois, Iowa City  
 Bounds, George W., Jr., Iowa City  
 Bourke, William W., St. Paul, Minnesota  
 Bourne, Melvin G., Algona  
 Bouthilet, Florence J., Mason City  
 Bovenmyer, DeVoe O., Ottumwa  
 ★Bowen, Frederick S., Woodburn (L.M.)  
 Bowers, Arthur S., Orient  
 Bowers, Clifford V., Sioux City  
 Bowers, Henry W., Nevada  
 Bowie, Louis L., Marshalltown  
 Boyd, Eugene J., Iowa City  
 Boyer, Howard C., Council Bluffs (L.M.)  
 Boyer, Ulysses S., Davenport  
 Bozek, Thaddeus T., West Branch  
 ★Braatelen, Newell T., Des Moines  
 Bradford, Clyde R., Des Moines  
 Bradford, George T., Dubuque  
 Bradley, Carl L., Newhall  
 Bradshaw, Douglas, Fort Dodge  
 Brady, Rita M., Iowa City  
 Braley, Alton E., Iowa City  
 Braunlich, George, Davenport  
 Bray, Daniel L., Algona  
 Brecher, Paul W., Storm Lake  
 Brendel, Alfred, Central City  
 ★Brennan, James E., Des Moines  
 Brereton, Harold L., Emmetsburg  
 Brewster, Calvin O., Britt  
 Bridgeman, Harry L., Knoxville (L.M.)  
 Bries, Frank J., Holy Cross  
 Brindley, Robert W., Des Moines  
 Brinegar, Willard C., Cherokee  
 Brink, Raymond J., Ayrshire  
 ★Brinker, Marion H., Jefferson  
 Brinkman, William F., Pocahontas  
 Brintnall, Edgar S., Iowa City  
 Brobyn, Thomas E., Grinnell  
 Broderick, Clarence E., Cherokee  
 Brody, Sidney, Ottumwa  
 ★Broman, John A., Maquoketa  
 Broers, Merlin U., Schleswig  
 Brown, Addison W., Des Moines  
 Brown, Arthur C., Council Bluffs  
 Brown, Bernice L. E., Anamosa  
 Brown, Carroll A., Sioux City  
 Brown, Douglas H., Forest City  
 Brown, Gerald F., Anamosa  
 Brown, Harold L., Sioux City  
 Brown, Ivan E., Hartley  
 Brown, Kenneth R., Leon  
 Brown, Marjorie F., Iowa City  
 Brown, Merle J., Davenport  
 Brown, Robert C., Mason City  
 Brown, Wayne B., Mt. Pleasant  
 Brown, William J., Jr., Wellesley, Mass.  
 Brownstone, Manuel, Clear Lake  
 Brownstone, Sidney, Clear Lake  
 Brubaker, Carl F., Corydon  
 Bruce, James H., Fort Dodge  
 Brumer, Herbert B., Clinton (L.M.)  
 Brummitt, Charles F., Centerville  
 Brundige, Ralph E., Akron  
 Bruner, Julian M., Des Moines  
 Brunk, Amos W., Prescott  
 Brush, C. Herbert, Shenandoah  
 Brush, Frederick C., Mason City  
 Buchanan, John J., Milford  
 Buchman, Elwood, Iowa City  
 Buckwalter, Joseph A., Iowa City  
 Bullock, Alfred L., Cushing  
 Bullock, Grant D., Inwood  
 Bullock, William E., Lake Park (L.M.)  
 Bunge, Raymond G. E., Iowa City  
 Burbank, Dean S., Pleasantville  
 Burch, Earl S., Dayton  
 Burcham, Thomas A., Des Moines



- Buresh, Abner, Lime Springs  
 Burgess, Floyd M., Des Moines  
 Burgess, Arthur W., Iowa Falls  
 Burke, Edmund T., Des Moines  
 Burke, Thomas A., Mason City  
 Burleson, Marvin W., Fort Dodge  
 Burns, Harry, Des Moines  
 Burnside, Raymond A., Des Moines  
 Burr, Charles L., Des Moines  
 Burroughs, Charles R., Knoxville  
 Burroughs, Hubert H., Sioux City  
 Bursheim, Peder J., Des Moines  
 Bushmer, Alexander, Orange City  
 Bushnell, John W., Sioux City  
 Butler, Margaret K., Fort Dodge  
 \*Butterfield, Edwin J., Tucson, Arizona (L.M.)  
 Buxton, Otho C., Jr., Webster City  
 \*Buzan, Edwin F., Des Moines  
 Byrnes, Clefmet W., Dunlap  
 Byrum, Robert J., Davenport
- Cahn, Philipp, Oakdale  
 Calbreath, Lloyd B., Humeston  
 Callaghan, Ambrose J., Jr., Sioux City  
 Callahan, George D., Iowa City  
 Camel, Louise M., Council Bluffs  
 Camp, John R., Britt  
 Campbell, Nathan, Yarmouth  
 Campbell, Thomas R., Sioux Rapids  
 Campbell, Walter V., Oskaloosa  
 Canady, George F., Jefferson  
 Cantwell, John D., Davenport (L.M.)  
 Carey, Edward T., Jr., Clinton  
 Carey, Michael J., Council Bluffs  
 Carlile, Amos W., Manning  
 Carlson, Elmer H., Muscatine  
 Carlson, Frank G., Mason City (L.M.)  
 Carney, Robert G., Iowa City  
 Carney, Roscoe P., Jr., Davenport  
 Carpenter, Fred E., Newton  
 Carpenter, Ralph C., Marshalltown  
 Carr, Leslie L., West Union  
 Carrigg, Lawrence G., Cedar Rapids  
 Carroll, Thomas J., Sibley  
 Carryer, Carl H., Des Moines (L.M.)  
 Carson, Andros, Des Moines (L.M.)  
 Carson, Raymond W., Winterset  
 Carstensen, Albert B., Linn Grove  
 Carstensen, Vincent H., Waverly  
 Carter, John R., Iowa City  
 Carver, David C., Rockwell City  
 Carver, William F., Fort Dodge (L.M.)  
 Cary, Walter, Dubuque  
 Cash, Paul T., Des Moines  
 Cash, William H., Lenox  
 Cashman, Chester F., Hartley  
 Castell, John W., Fairfield  
 Castles, William A., Dallas Center  
 Catalona, William E., Muscatine  
 Catlin, Karl A., Clarinda  
 Catterson, Leroy F., Oskaloosa  
 Caughlan, Gerald V., Council Bluffs  
 Cauley, Francis P., Anthon  
 Caulfield, John D., New Hampton  
 Chain, Leo W., Dedham  
 Challed, Don S., Cedar Rapids  
 Chambers, Charles L., Des Moines (L.M.)  
 Chambers, James W., Des Moines  
 Chapler, Keith M., Dexter  
 Chapman, Robert M., Cedar Rapids  
 Chase, Sumner B., Fort Dodge  
 Chase, Walter E., Rippey  
 Chase, William B., Jr., Des Moines  
 Chase, William B., Des Moines (L.M.)  
 Chenoweth, Charlie E., Mason City  
 Chesnut, Paul F., Winterset  
 Chester, Walter S., Albion  
 Childs, Hal A., Creston (L.M.)  
 Chittum, John H., Wapello (L.M.)  
 Chittum, Josiah M., North Liberty (L.M.)  
 Christensen, Eunice M., Spencer  
 Christensen, Everett D., Spencer  
 Christensen, Floyd D., Remsen  
 Christensen, John R., Eagle Grove  
 \*Christensen, John R., II, Eagle Grove  
 Christiansen, Charles C., Grand Mound  
 Christiansen, James, Sioux City  
 Christiansen, John E., Durant  
 Christopherson, Joseph E., Mason City  
 Clapsaddle, Dean W., Clear Lake  
 Clapsaddle, John G., Burt  
 Clark, Clayton W., Nashua  
 Clark, George H., Oskaloosa  
 Clark, James P., Estherville  
 Clark, Orson W., Ogden  
 Clark, Richardson E., Manchester  
 Clark, Thomas D., Knoxville
- Clary, William H., Prescott (L.M.)  
 Clasen, Henry W., Cedar Falls (L.M.)  
 Clemens, Albert L., Des Moines  
 \*Cline, Hubert L., Iowa City  
 Closson, Charles L., Walker  
 Cloud, Arthur B., Audubon  
 Cmeyla, Patrick M., Sioux City  
 Cobb, Elliott A., Cedar Rapids  
 Coburn, Frank E., Iowa City  
 Cochran, J. Lawrence, Carroll  
 Cochran, Allen M., Adel  
 Coddington, James H., Humboldt  
 Cody, William E., Sioux City  
 Coffin, Lonnie A., Farmington  
 Coffman, Eugene W., Dubuque  
 Cogley, John P., Council Bluffs  
 Cohen, Sidney A., Council Bluffs  
 Colbert, Lawrence D., Royal  
 Cole, Elmer J., Woodbine (L.M.)  
 Cole, Fern N., Iowa Falls  
 Cole, Harold P., Thurman  
 Cole, Julia, Ames  
 Coleman, Francis C., Des Moines  
 Collignon, Urban J., Council Bluffs  
 Collins, Harry A., Des Moines  
 Collins, Robert M., Council Bluffs  
 Collison, Robert M., Oskaloosa  
 Comly, Hunter H., Iowa City  
 Conkling, Russell W., Iowa City  
 Conley, Rollin M., Perry  
 Conney, Roy M., Sergeant Bluffs  
 Connell, John, Des Moines  
 Connelly, Edgar J., Dubuque  
 Conner, John D., Nevada  
 Conzett, Donald C., Dubuque  
 Cook, Julius E., Iowa City  
 Cook, Kenneth G., Fairfield  
 Cook, R. Sanford, Tipton  
 Cook, Stuart H., Rock Rapids  
 Cooper, Clark N., Waterloo  
 Cooper, Dean C., Fort Dodge  
 Cooper, Gladys A., Red Oak  
 Cooper, Jay C., Villisca  
 Cooper, Raymond E., Keokuk  
 Cooper, Wayne K., Cedar Rapids  
 Coppel, Loran E., Ottumwa  
 Corbin, Sylvannus W., Corydon  
 Corcoran, Thomas E., Des Moines  
 Cords, Charles H., Rudd  
 Coriden, Thomas L., Sioux City  
 Corn Henry H., Des Moines  
 Cornell, Corwin S., Knoxville  
 Cornish, James A., Storm Lake  
 Corton, Richard V. M., Waterloo  
 \*Couchman, Phillip G., Des Moines  
 Coughlan, Charles H., Fort Dodge  
 Coughlan, Daniel W., Des Moines  
 Coulson, Forest H., Burlington  
 Coyne, Kenneth M., Burlington  
 Crabb, Dayle N., Denison  
 Crabb, George M., Mason City (L.M.)  
 Crain, Lewis F., Deep River (L.M.)  
 Crain, Mattie M., Deep River (L.M.)  
 Crandall, Jack S., Marshalltown  
 Crawford, Robert H., Burlington  
 Crawford, W. McCulloch, Burlington  
 Creamer, Frank H., Boone (L.M.)  
 Cressler, Frank E., Churidan  
 Cretzmeyer, Charles H., Algona (L.M.)  
 Cretzmeyer, Charles H., Jr., Philadelphia, Penn.  
 Cretzmeyer, Francis X., Emmetsburg  
 Crew, Arthur E., Marion (L.M.)  
 Crew, Philip I., Cedar Rapids  
 Cross, Donald L., Boone  
 Cross, Kenneth R., Iowa City  
 Crossley, J. Wesley, Mason City  
 Crow, George B., Burlington  
 Crowe, Denvil F., Hayti, Missouri  
 Crowley, Daniel F., Des Moines (L.M.)  
 Crowley, Daniel F., Jr., Des Moines  
 Crowley, Paul J., Davenport  
 Croxdale, Edward L., Villisca  
 Crumpton, Robert C., Webster City  
 Culbertson, James W., Iowa City  
 Cullen, Stuart C., Iowa City  
 Cullison, Robert M., Winston Salem, N. C.  
 Culp, David A., Iowa City  
 Cunningham, Glenn D., Davenport  
 Cunningham, Melvin B., Norwalk  
 Curtis, Dean, Chariton  
 Cusick, George W., Davenport
- Dahl, Harry W., Des Moines  
 Dahlbo, John E., Sutherland  
 Dahlquist, Ralph M., Decorah  
 Dalager, Robert D., Ottumwa  
 Dalbey, Glenn M., Traer  
 Danielson, May, Clinton
- Danley, Royal C., Hamburg  
 Darling, John P., Mason City  
 Darrow, Clarence, Dubuque  
 \*Daut, Richard V., Davenport  
 Daut, Walter W., Muscatine  
 Davey, William F., Sioux City  
 \*Davidson, Maurice C., Emmetsburg  
 Davidson, Thorald E., Mason City  
 Davies, Dale H., Iowa City  
 Davis, Arthur E., Seymour  
 Dawson, Emerson B., Fort Dodge  
 Dawson, Leon E., Des Moines  
 Day, Philip M., Oskaloosa  
 Day, Richard T., Hampton  
 Deakins, Martin, Vinton  
 Dean, Abbott M., Council Bluffs  
 Dean, Frank W., Council Bluffs (L.M.)  
 Dean, Ray H., Washington (L.M.)  
 Dean, William F., Osceola (L.M.)  
 Deaton, Helen J., Iowa City  
 DeBartolo, James J., Iowa City  
 Decker, Charles E., Davenport  
 Decker, Henry G., Des Moines  
 Decker, Jay C., Sioux City  
 DeGowin, Elmer L., Iowa City  
 deGraffenried, Thomas P., Des Moines  
 Demaree, Chester, Lacona (L.M.)  
 De Meulenaere, John C., Grinnell  
 Dempewolf, Robert D., Bellevue  
 Dennison, John C., Bellevue (L.M.)  
 Deranleau, Robert F., Perry  
 Derauf, Donald E., West Des Moines  
 DeShaw, Earl H., Monticello  
 Des Marias, Varina, Grundy Center  
 Devine, James S., Whittemore  
 Dewees, Frank L., Keokuk  
 Dewey, Jay R., Schaller  
 De Yarman, Kyle T., Morning Sun  
 DeYoung, Ward A., Glenwood  
 Diamond, Bernard, Waterloo  
 Dickens, James H., Des Moines  
 Diddy, Keith W., Perry  
 Dierker, Bernard J., Fort Madison  
 Dierker, LeRoy J., Fort Madison  
 Dimsdale, Louis J., Sioux City  
 Dingman, Marshall E., Urbana  
 Ditto, Boyd L., Burlington  
 Doane, Grace O., Des Moines  
 Dobson, Richard A., Sioux City  
 Dodge, Lynn, Ames  
 Doering, Valentine T., Fort Madison  
 Dolan, Henry F., Anamosa  
 Dolan, Thomas R., Anamosa  
 Doles, James W., Knoxville  
 Dolmage, George F., Buffalo Center  
 \*Donahoe, Joseph F., Fort Dodge  
 Donahue, James C., Centerville  
 Donlin, Robert E., Harlan  
 Donnelly, Madeline M., Des Moines  
 Donohoe, Anthony P., Davenport (L.M.)  
 Donohue, Edmund S., Sioux City  
 Donovan, William H., Iowa City  
 \*Dooly, John E., Fort Dodge  
 Doornink, William, Orange City  
 Dorner, Ralph A., Des Moines  
 Dorsey, Thomas J., Fort Dodge  
 Doss, W. Gordon, Cresco  
 Doss, W. Norman, Leon  
 Down, Howard I., Sioux City  
 Downing, Arthur H., Des Moines  
 Downing, James A., Des Moines  
 Downing, John S., Cedar Rapids  
 Downing, Leroy M., Cedar Rapids (L.M.)  
 Downing, Wendell L., LeMars  
 Downs, Vernon S., Ottumwa  
 Doyle, Bernard J., Des Moines  
 Dressler, John B., Ida Grove  
 Drew, Edward J., Des Moines  
 Drier, William C., Waterloo  
 Driver, Richard W., Waterloo  
 Brown, Roger E., Fort Dodge  
 Dubansky, Marvin H., Iowa City  
 Duewall, Rudolph H., West Des Moines  
 Dulin, Evelyn H., Iowa City  
 Dulin, John W., Iowa City  
 Dulin, Tarana J. G., Iowa City (L.M.)  
 Duling, Raymond J., Sioux City  
 Dulmes, Abraham H., Klemme  
 Dunn, Dale E., Estherville  
 Dunn, Francis C., Cedar Rapids  
 Dunn, James, Davenport  
 Dunn, Robert E., Dysart  
 \*Dunseth, Ward R., Kellogg  
 Durdieker, Stanley W., Des Moines  
 Dushkin, Milton A., Chicago, Illinois  
 Dutton, Dean A., Van Horne  
 Dvorak, Joseph E., Sioux City  
 Dwyer, Bernard B., Clinton



- Dwyer, Robert E., Clinton  
 Dyson, James E., Des Moines  
 Dyson, Ralph E., Des Moines  
 Eastburn, Harvey B., Burlington  
 Eaton, Robert C., Clarion  
 Ebinger, Edward W., Ottumwa  
 Echternacht, Arthur P., Fort Dodge  
 Eckberg, Richard A., Hubbard  
 \*Eckhardt, Richard D., Iowa City  
 Eckstein, John W., Iowa City  
 Edgren, Donald C., Davenport  
 Edington, Frank D., Spencer  
 Edwards, Charles C., Rochester, Minn.  
 Edwards, Charles V., Council Bluffs  
 Edwards, Ralph R., Centerville  
 Egan, Thomas J., Bancroft  
 Egbert, Dan S., Fort Dodge  
 Egermayer, George W., Elliott  
 Eggleston, Alfred A., Burlington  
 Egloff, William C., Mason City  
 Ehmke, Bruce C., Iowa City  
 Ehrenhaft, Johann L., Iowa City  
 Eicher, Charles R., Iowa City  
 Eiel, John O., Osage  
 Eiel, Merrill O., Osage  
 Elkins, Higdon B., Iowa City  
 Eller, Lancelot W., Kanawha  
 Eller, William C., Waterloo  
 Elliott, Olin A., Des Moines  
 Ellis, Howard G., Des Moines  
 Ellison, George M., Clinton  
 Ellsworth, H. Charles, Cherokee  
 Ellyson, Charles W., Waterloo  
 Ellyson, Craig D., Waterloo  
 Ely, Lawrence O., Des Moines  
 Emanuel, Dennis G., Ottumwa  
 Emerson, Edward L., Muscatine  
 Emmons, Marcus B., Clinton  
 Emmons, Margaret S., Iowa City  
 Emmons, Richard O., Iowa City  
 Eneboe, Edward M., Hawarden  
 Engelmann, Andrew T., Sioux City  
 Englund, Philip M., Iowa City  
 Enna, Melchior D., Dumont  
 Ennis, Harry H., Manchester  
 Ensley, Bruce, Shell Rock (L.M.)  
 Entringer, Albert J., Dubuque  
 Entz, F. Harold, Waterloo  
 Ergenbright, Willard V., Des Moines  
 Ericsson, Martin G., Cedar Falls  
 Erikson, Roland E., Davenport  
 Estes, Maurice, Cedar Rapids  
 Evans, Harold J., Homewood, Illinois  
 Evans, John E., Winterset  
 Evans, John G., New Hartford (L.M.)  
 Evans, William I., Sac City  
 Evers, Alvin E., Pella  
 Faber, Luke A., Dubuque  
 Fail, Charles S., Adel  
 Fallows, Howard D., Mason City (L.M.)  
 Farlow, Charles T., Farnhamville (L.M.)  
 Farnsworth, Harold E., Storm Lake  
 \*Farnum, Earl P., Sibley (L.M.)  
 Farrage, Edward R., Council Bluffs  
 Farrior, Richard T., Iowa City  
 Faust, John H., Manson  
 Fee, Charles H., Denison  
 Fee, Knight E., Toledo  
 Feher, Karoly I., New York City  
 Feightner, Robert L., Fort Madison  
 Feldick, Harley G., Buffalo Center  
 Fellows, Joseph G., Ames  
 Felter, Allan G., Van Meter  
 Fenton, Charles D., Bloomfield  
 Fenton, Robert L., Centerville  
 Ferguson, John W., Newton  
 Ferguson, Paul, Lake City  
 Ferlic, Rudolph J., Carroll  
 Fesenmeyer, Charles R., Davenport  
 \*Field, Charles A., Cresco  
 Field, George A., Des Moines (L.M.)  
 Field, Grace E. W., Juneau, Alaska  
 Fields, Robert B., La Porte City  
 Fieseler, Walter R., Fort Dodge  
 Fieselmann, George F., Spencer  
 Files, Edward H., Cedar Rapids  
 Fillenwarth, Floyd H., Charles City  
 Fisch, Roman J., Le Mars  
 Fisher, June M., Iowa City  
 Fishman, Harlow J., Cherokee  
 Fisk, Charlotte, Des Moines  
 Fitzgerald, Joseph D., Sloan  
 Fitzpatrick, Dennis F., Iowa City (L.M.)  
 Flannery, Francis E., Cedar Rapids  
 Flater, Norman C., Floyd  
 Fleischman, Abraham G., Des Moines  
 Fleming, Edward F., Rockwell  
 Flickinger, Roger R., Mason City  
 Flocks, Rubin H., Iowa City  
 Floersch, Eugene B., Council Bluffs  
 Floyd, Mark L., Iowa City  
 Flynn, Charles H., Clarinda  
 Flynn, James R., Jr., Cedar Rapids  
 Flynn, Robert E., Iowa City  
 \*Foley, Fred C., Newell (L.M.)  
 \*Foley, Walter E., Davenport  
 \*Foley, Walter E., Jr., Davenport  
 Forbes, Stephen A., Iowa City  
 Fordyce, Frank W., Des Moines  
 Forsythe, Dorothy C., Newton  
 Forsythe, Frank E., Newton  
 Foss, John F., Burlington  
 Foss, Robert H., Iowa City  
 Foster, Morgan J., Cedar Rapids  
 Foster, Warren H., Clinton  
 Foster, Wayne J., Cedar Rapids  
 Foulk, Frank E., Des Moines  
 Fourt, Arthur S., Melbourne  
 Fowler, Charles C., Lovilia (L.M.)  
 Fowler, Willis M., Iowa City  
 Fox, Charles I., Pharr, Texas (L.M.)  
 Fox, LeRoy J., Des Moines  
 Fox, Ray A., Charles City  
 Fox, Stephan, Ottumwa  
 Franchere, Chetwynd M., Mason City  
 Franey, William E., Cedar Rapids  
 Frank, Louis J., Sioux City  
 Frank, Owen L., Maquoketa  
 Franklin, George W., Jefferson (L.M.)  
 Fraser, James B., Des Moines  
 Fraser, John H., Monticello  
 Frech, Raymond E., Newton  
 Frederickson, Adolph R., Lansing  
 French, Royal F., Marshalltown  
 French, Valiant D., Cedar Falls  
 Frenkel, Hans S., Clarinda  
 Friday, Walter C., Burlington  
 Frink, Lyle F., Spencer  
 Fritchen, Arthur F., Decorah  
 Fritz, Lafe H., Dubuque (L.M.)  
 From, Paul, Des Moines  
 Frost, Loraine H., Iowa City  
 Fry, Gerald A., Vinton  
 Frys, Russell N., Iowa City  
 \*Fuerste, Frederick, Dubuque  
 Fullerton, Oscar L., Redding (L.M.)  
 Funk, David C., Iowa City  
 Furumoto, Kihoshi, Keosauqua  
 Gaard, Rasmus R., Radcliffe  
 Galinsky, Leon J., Des Moines  
 Gallagher, John P., Oelwein  
 Gamet, Elmo E., Lamoni  
 Gamet, Joseph H., Cedar Falls  
 Gann, Edward R., Sigourney  
 Gantz A. Jay, Greenfield  
 Ganzhorn, Harold L., Mapleton  
 Gardner, Harold O., Waterloo  
 Gardner, John R., Lisbon (L.M.)  
 Garland, John C., Marshalltown  
 \*Garred, John L., Whiting  
 Garred, William P., Whiting  
 Garrett, Morris M., Iowa City  
 Garside, Arthur A., Davenport  
 Garvy, Andrew C., Iowa City  
 Gauger, John W., Early  
 Gaukel, Leo A., Onawa  
 Gault, James B., Creston  
 Gearhart, George W., Springville (L.M.)  
 Gee, Kenneth J., Shenandoah  
 Gelfand, Arthur B., Sioux City  
 Gelman, Webster B., Iowa City  
 Gelperin, Abraham, Des Moines  
 George, Everett M., Des Moines  
 George, Louis A., Remsen  
 Gerard, Russell S., II, Waterloo  
 Gerken, James F., Waterloo  
 Gernsey, Merritt N., Long Beach, Calif. (L.M.)  
 Gerstman, Herbert, Marion  
 Gessford, Howard H., George  
 Getty, Everett B., Pringhar  
 Gibbon, William H., Sioux City  
 Gibbs, George M., Burlington  
 Gibson, Chelsea D., Sac City  
 Gibson, Douglas N., Des Moines  
 Gibson, Paul E., Des Moines  
 Gibson, Preston E., Davenport  
 Giegerich, Walter F., Atlantic  
 Gilbertson, David G., Des Moines  
 \*Giles, Francis E., Cresco  
 Giles, W. Clark, Council Bluffs  
 Gilfillan, Clarence D. N., Bloomfield  
 Gilfillan, Earl E., Bloomfield  
 Gilfillan, Edwin O., Bloomfield  
 Gilfillan, Homer J., Jr., Bloomfield  
 Gillett, Francis A., Oskaloosa  
 Gillies, Carl L., Iowa City  
 Gillmor, Benjamin F., Red Oak (L.M.)  
 Gingles, Earl E., Onawa  
 Ginzberg, Fanny T., Cherokee  
 Gittins, Thomas R., Sioux City  
 Gittler, Ludwig, Fairfield  
 Gius, John A., Iowa City  
 Givens, H. Frank, West Bend (L.M.)  
 \*Gladstone, William S., Iowa City  
 Glenchur, Thomas C., Des Moines  
 Glesne, Otto N., Fort Dodge  
 Glomset, Daniel A., Des Moines  
 Goad, Robley R., Muscatine  
 \*Godbey, Maunis E., Mount Pleasant  
 Goddard, Chester R., Iowa City  
 Goebel, Clarence J., Sioux City  
 Goen, Edwin J., Charles City  
 Goenne, Richard E., Davenport  
 Goenne, William C., Davenport  
 Goenne, William C., Jr., Sioux City  
 Goggin, John G., Ossian  
 Goggin, Phoebe T., Ames  
 Goldberg, Louie, Des Moines  
 Goldstein, Morton S., Iowa City  
 Goodenow, Sidney B., Colo  
 Goodman, Lawrence O., Marshalltown  
 Gordon, Arnold M., Des Moines  
 Gorrell, Ralph L., Clarion  
 Gottlieb, Jacques S., Miami, Florida  
 Gottsch, Edwin J., Shenandoah  
 Gould, George R., Grundy Center (L.M.)  
 Gower, Walter E., Fort Dodge  
 Graham, James W., Sioux City  
 Grams, LaVerne F., Buffalo Center  
 Gran, Albert G., Storm Lake  
 Grandinetti, Arthur F., Oelwein  
 Grant, John G., Ames  
 Grau, Amandus H., Denison  
 Graves, Charles C., Jr., Des Moines  
 Graves, John, Dubuque  
 Gray, Charles W., Ottumwa  
 Gray, Henry A., Keokuk (L.M.)  
 Gray, Ralph E., Eldora  
 \*Greco, Donald J., Des Moines  
 Greco, Louis R., Jr., Des Moines  
 Greenblatt, Jerald, Cedar Rapids  
 Greenhill, Solomon, Des Moines  
 Greenleaf, John S., Iowa City  
 Gregg, John B., Iowa City  
 Greteman, Theodore J., Dubuque  
 Griffin, Charles C., Dyersville  
 Griffin, Clark C., Jr., Vinton (L.M.)  
 Griffin, Frank L., Baldwin  
 Griffin, John M., Des Moines (L.M.)  
 Griffin, Robert E., Sheldon  
 Griffith, William O., Council Bluffs  
 Grimmer, George T., Manchester  
 Groben, Elmer S., Columbus Junction  
 Grossman, Milton D., Sioux City  
 Grossman, Raymond S., Marshalltown  
 Grossmann, Edward B., Orange City  
 Grothaus, Dell L., Delta  
 Grubb, Merrill W., Galva  
 Gugle, Lloyd J., Ottumwa  
 Gunn, Ross E., Boone  
 Guray, Henry H., Des Moines  
 Gustafson, John E., Des Moines  
 Gutch, Roy C., Charlton  
 Gutch, Thomas E., Albia (L.M.)  
 Gutenkauf, Charles H., Des Moines  
 Hagen, Edward F., Decorah  
 Haggard, David K., Hawarden  
 Haines, Diedrich J., Des Moines  
 Hale, Albert E., Mason City  
 Hall, Bonnybel A., Maynard  
 Hall, Cluley C., Maynard  
 Hall, Forest F., Webster City  
 Hallam, F. Tulley, Des Moines  
 Halberg, Harold C., Strawberry Point  
 Halloran, William H., Audubon  
 Halpin, Lawrence J., Cedar Rapids  
 Hamilton, Benjamin C., Jr., Jefferson  
 Hamilton, Cecil V., Garner  
 Hamilton, Henry E., Iowa City  
 Hamilton, William K., Iowa City  
 Hands, Sidney G., Davenport  
 Hansell, William W., Des Moines  
 Hansen, Fred A., Red Oak  
 Hansen, Hans, Logan  
 Hansen, Niels M., Des Moines  
 Hansen, Robert R., Marshalltown  
 Hansen, Russell R., Storm Lake  
 Hanson, Carl A., Waterloo  
 Hansmann, Irving J., Council Bluffs  
 Hardin, John F., Bedford  
 Hardin, Robert C., Iowa City  
 Hardwig, Oswald C., Waverly  
 Hardwig, Robert P., Waverly



- Harken, Conreid R., Osceola  
 Harkness, Gordon F., Davenport (L.M.)  
 Harman, Dean W., Glenwood  
 Harms, George E., Norway  
 Harnagel, Edward J., Des Moines  
 Harper, George E., Fort Madison  
 Harper, Harry D., Fort Madison  
 Harper, William H., Jr., Keokuk  
 Harper, William H., Keokuk  
 Harrington, Arlan F., Cedar Rapids  
 Harrington, Raymond J., Sioux City  
 Harris, Clinton E., Grinnell (L.M.)  
 Harris, D. Dale, Marshalltown  
 Harris, Grover W., Marshalltown  
 Harris, Herbert H., Sioux City  
 Harris, Jack T., Luverne  
 Harris, Ray R., Dubuque  
 Hart, Paul V., Des Moines  
 Hartley, Byron D., Mt. Pleasant  
 Hartman, Frank T., Waterloo (L.M.)  
 Hartman, Howard J., Waterloo  
 Hartung, Walter, Davenport  
 Harvey, Glen W., Cedar Rapids  
 Harwood, Arthur M., Sigourney  
 Haskell, Jack G., Reinbeck  
 Hastings, Richard A., Ottumwa  
 Haufe, W. David, Bloomfield  
 Havlik, Al J., Tama  
 Hawkins, Charles P., Clarion  
 Hawkins, Robert E., Council Bluffs  
 Hayes, William P., Cedar Rapids  
 Hayne, Willard W., Des Moines  
 Hazlet, Kenneth K., Dubuque  
 Heady, Conda C., Bloomfield (L.M.)  
 Heald, Clarence L., Sigourney (L.M.)  
 Heathman, Frank E., Pocahontas (L.M.)  
 Hecker, John T., Cedar Rapids  
 Heeren, Ralph H., Des Moines  
 Heffernan, Chauncey E., Sioux City  
 Hegg, Lester R., Rock Valley  
 Hegstrom, George J., Des Moines  
 Heilman, Elwood H., Ida Grove  
 Heilman, Robert D., Sioux City  
 Heimann, Verne R., Sioux City  
 Heinmiller, E. Clifford, Fort Madison  
 Heise, Carl A., Jr., Jewell  
 Heise, Harris R., Marshalltown  
 Heise, Robert H., Story City  
 Heitzman, Paul O., Cedar Rapids  
 Heles, John B., Dubuque (L.M.)  
 Henderson, Lauren J., Cedar Falls  
 Henderson, Walker B., Oelwein  
 Hendricks, Atlee B., Davenport  
 Hendrickson, Alvin H., Sioux City  
 Henkin, John H., Sioux City  
 Hennes, Raphael J., Oxford  
 Hennessey, John M., Manilla  
 Hennessey, Felix A., Calmar  
 Hennessey, J. Donald, Council Bluffs  
 Henningsen, Artemus B., Clinton  
 Henry, Clyde A., Farson (L.M.)  
 Henry, Hiram B., Des Moines  
 Henstorf, Harold R., Shenandoah  
 Herman, John C., Boone  
 Herry, Peter M., Prairie City  
 Herrick, Thomas G., Gilmore City  
 Herrick, Walter E., Ottumwa  
 Herrmann, Christian H., Jr., Amana  
 Hersey, Nelson L., Independence  
 Hess, John, Jr., Des Moines  
 Heuermann, Dorothy, Coulter  
 Heusinkveld, Henry J., Clinton  
 Hickenlooper, Carl B., Winterset  
 Hickey, Robert C., Iowa City  
 Hickman, Charles S., Centerville  
 \*Hickman, Donald M., Indianola  
 Hicks, Edgar O., Clinton  
 Hicks, Murwyn L., Iowa City  
 Hicks, Wayland K., Sioux City  
 \*Hight, William B., Des Moines (L.M.)  
 Hildebrand, Howard H., Ames  
 Hill, Christine E., Virginia Beach, Virginia (L.M.)  
 Hill, Don E., Clinton  
 Hill, James W., Mount Ayr  
 Hill, Julia F., Des Moines (L.M.)  
 Hill, Lee F., Des Moines  
 Hill, Richard W., Lake Mills  
 \*Hills, Henry M., Lamoni (L.M.)  
 Hirleman, Hal R., Cedar Rapids  
 Hirst, Donald V., Council Bluffs  
 Hobart, Francis W., Lake City  
 Hodges, Robert E., Iowa City  
 Hoeven, Edward B., Ottumwa  
 Hoffman, Alfred A., Waterloo  
 Hoffman, Paul M., Tipton  
 Hoffmann, Robert W., Des Moines  
 Hoffmann, William P., Davenport  
 Hogenson, George B., Eagle Grove  
 Hollander, Werner M., Davenport  
 Hollis, Edward L., Marengo (L.M.)  
 Holtey, Joseph W., Ossian  
 Hombach, Walter P., Council Bluffs  
 Hommel, Placido R. V., Elkader  
 Honke, Edward M., Sioux City  
 Hooper, Lester E., Indianola  
 Hopkins, David H., Glidden  
 Hornaday, William L., Des Moines  
 Hornberger, John R., Manning  
 \*Horton, Robert R., Algona  
 Hosford, Horace F., Burlington  
 Hospodarsky, Leonard J., Des Moines  
 Hostetter, John I., Des Moines  
 Houghton, Earl J., Bettendorf  
 Houlihan, Jay E., Mason City  
 Houlihan, Francis W., Ackley  
 Houser, Blanche W., Cedar Rapids  
 Houser, Cass T., Cedar Rapids  
 Housholder, Harold A., Winthrop  
 Howar, Bruce F., Webster City  
 Howard, Dwayne E., Iowa City  
 Howard, Lloyd G., Council Bluffs  
 Howe, Gerald W., Marengo  
 Howell, Elias B., Ottumwa  
 Hoyt, John L., Creston  
 Hruska, Glen J., Belmond  
 Huber, Robert A., Charter Oak  
 Huber, Robert H., Osage  
 Hudek, Joseph W., Garnaville  
 Huey, John R., Cedar Rapids  
 Huffman, William C., Iowa City  
 Hughes, Parker K., Des Moines  
 Hughes, Robert O., Ottumwa  
 Hull, Gene I., Des Moines  
 Hull, Henry C., Jr., Washington (L.M.)  
 Hulse, Roy A., Burlington  
 Hunt, Van W., Mason City  
 Hunting, Ralph D., Cedar Rapids  
 Huntley, Charles C., Avoca  
 Hurevitz, Hyman M., Davenport  
 Huston, Daniel F., Burlington  
 Huston, Marshall D., Cedar Falls  
 Huston, Paul E., Iowa City  
 Hyatt, Charles N., Humeston  
 Hyde, John R., Emmetsburg  
 Ihle, Charles W., Cleghorn (L.M.)  
 Ingham, Paul G., Mapleton  
 Ingle, Newell G., Cedar Rapids  
 Ingraham, David R., Sewal  
 Irish, Thomas J., Forest City  
 Irving, Noble W., Jr., West Des Moines  
 Isenberg, Bertice A., Lohrville  
 \*Isham, Robert B., Osage  
 \*Iwen, George W., Iowa City  
 Jack, Darwin B., Oelwein  
 Jackson, James M., Jefferson (L.M.)  
 Jackson, James S., Mt. Pleasant  
 Jackson, Robert L., Iowa City  
 Jacobs, Carl A., Sioux City  
 Jacobs, Edward L., Conrad  
 Jacoby, James A., Burlington  
 Jacques, Lewis H., Lone Tree  
 Jaenicke, Kurt, Clinton  
 Jaggard, Robert S., Oelwein  
 James, Audra D., Des Moines  
 James, David W., Des Moines  
 James, Lora D., Fairfield  
 James, Peter E., Audubon (L.M.)  
 Jameson, Robert E., Bettendorf  
 Janse, Phillip V., Algona (L.M.)  
 January, Lewis E., Iowa City  
 Jardine, George A., New Virginia  
 Jarvis, Harry D., Chariton  
 Jaskunas, Stanley R., Bloomfield  
 Jeffries, Milo E., Marshalltown  
 Jeffries, Roy R., Waukon  
 Jenkins, George A., Albia (L.M.)  
 Jenkins, George D., Burlington  
 \*Jenkins, Hanley F., Ogden  
 Jenkinson, Harry R., Iowa City  
 Jenks, Alonzo L., Jr., Des Moines  
 Jensen, Arthur E., Humboldt  
 \*Jensen, Kenneth V., Clarinda  
 Jensen, LeRoy E., Audubon  
 Jerdee, Ingebrecht C., Clermont  
 Jessup, Parke M., Muscatine  
 Jirsa, Harold O., Cedar Rapids  
 Johann, Albert E., Des Moines  
 Johnson, Aaron Q., Sioux City  
 Johnson, Albert P., Sigourney (L.M.)  
 Johnson, Clarence A., Coon Rapids  
 Johnson, Francis N., Boone  
 Johnson, George M., Oberlin, Ohio (L.M.)  
 Johnson, G. Raymond, Ottumwa  
 Johnson, Harvey A., Atlantic  
 \*Johnson, J. A. William, Marshalltown  
 \*Johnson, Merlin H., Iowa City  
 Johnson, Merton A., Nevada  
 Johnson, Norman M., Clarinda  
 Johnson, Richard M., Denison  
 Johnson, Robert J., Iowa Falls  
 Johnson, Robert M., Des Moines  
 Johnson, Robert W., Clinton  
 Johnson, Victor P., Des Moines  
 \*Johnson, Wendell A., Emmetsburg  
 Johnson, William A., Iowa Falls  
 Johnston, C. Harlan, Des Moines  
 Johnston, Florence D., Cedar Rapids  
 Johnston, George B., Estherville  
 Johnston, Harry L., Ames  
 Johnston, Helen, Des Moines  
 Johnston, Kenneth L., Oskaloosa  
 Johnston, Theodore L., Iowa City  
 Johnston, Wayne A., Dubuque  
 Johnstone, Alexander A., Keokuk  
 Joiner, Bennett A., Iowa City  
 Jones, Cecil C., Des Moines  
 Jones, Charles L., Gilmore City  
 Jones, Clare C., Spencer  
 Jones, Harold W., Sioux City  
 Jones, Harry J., Cedar Rapids  
 Jones, Henry D., Schleswig  
 Jones, Louis H., Wall Lake (L.M.)  
 Jongewaard, Albert J., Jefferson  
 Jongewaard, Jean, Jefferson  
 Jongewaard, Robert E., Scranton  
 Joranson, Robert E., Council Bluffs  
 Jordan, John W., Maquoketa  
 Jowett, John R., Clinton  
 Joyce, George T., Mason City  
 Joynt, Albert J., Waterloo  
 Joynt, Martin J., LeMars  
 Joynt, Michael F., Marcus  
 \*Judiesch, Kenneth J., Iowa City  
 Juel, Einer M., Atlantic  
 Jurgensen, William W., St. Louis, Missouri  
 Kaack, Harry F., Jr., Clinton  
 Kahler, Hugo V., Reinbeck  
 Kaley, Jack S., Iowa City  
 Kane, Thomas E., Boone  
 Kanealy, John F., Cedar Rapids  
 Kapke, Franklin W., Mason City  
 Kaplan, David D., Sioux City  
 Kaplan, Robert M., Davenport  
 Kas, Thomas D., Sutherland  
 Kasiske, Walter B., Keokuk  
 Kassmeyer, John C., Dubuque  
 Kast, Donald H., Des Moines  
 Katherman, Charles A., Sioux City  
 Katzmann, Frederick S., Des Moines  
 Kaufman, Ernest L., Fort Atkinson (L.M.)  
 Kearney, William W., Oakdale  
 Keech, Roy K., Cedar Rapids  
 Keen, Burlin E., Des Moines  
 Keeney, George H., Mallard  
 Keettel, William C., Jr., Iowa City  
 Kehoe, Joseph L., Davenport  
 Kell, Philip G., Des Moines  
 Keith, Charles W., Strawberry Point (L.M.)  
 Keith, John J., Marion  
 Kelberg, Melvin R., Sioux City  
 Kell, Joseph F., Jr., Sioux City  
 Kelley, Edmund J., Des Moines  
 Kelley, Lawrence E., Des Moines  
 Kelly, Dennis H., Des Moines  
 Kelly, John F., Sioux City  
 \*Kelly, Joseph I., Burlington (L.M.)  
 Kelsey, James E., West Des Moines  
 Kenefick, John N., Algona  
 Kennedy, Elizabeth S., Oelwein (L.M.)  
 Kennedy, William C., Somers  
 \*Kenney, Bernard E., Woodbine  
 Keohen, Gerald F., Dubuque  
 Kern, Lester C., Waverly (L.M.)  
 Kerr, H. Dabney, Iowa City  
 Kerr, Kriss M., Paton  
 Kerr, W. Hawley, Hamburg  
 Kershner, Frank O., Clinton  
 Kersten, Ernest M., Fort Dodge  
 Kersten, Herbert H., Fort Dodge  
 Kersten, John R., Fort Dodge  
 Kerwick, Joseph M., New Hampton  
 Kestel, John L., Waterloo  
 Kether, Lester E., Oelwein  
 Kettelkamp, Enoch G., Monona  
 Keyser, Earl L., Marshalltown  
 Keyser, Ralph E., Marshalltown  
 Kieck, Ernest G., Cedar Rapids  
 Kienzie, William K., Wellsburg  
 Kiesau, Milton F., Postville  
 Kiesling, Harry F., Lehigh  
 Kilgore, Ben F., Des Moines



- Kimball, John E., West Liberty  
 Kimberly, Lester W., Davenport  
 King, Dean H., Spencer  
 King, Oran W., Des Moines (L.M.)  
 King, Ray E., Shreveport, La.  
 King, Ross C., Clinton  
 Kingsbury, Charles L., Keokuk  
 Kingsbury, Kenneth R., Ottumwa  
 Kirch, Walter A., Des Moines  
 Kirkendall, Walter M., Iowa City  
 Kirkegaard, C. Smith, Estherville  
 Kirkham, Lindsay J., Mason City  
 Kitson, Walter W., Atlantic  
 Klein, John L., Jr., Muscatine  
 Klein, Robert F., Muscatine  
 Kleinberg, Henry E., Des Moines  
 Klemme, Herbert L., Belle Plaine  
 Kline, Samuel, Sioux City  
 Klockslem, Harold L., Des Moines  
 Klockslem, Roy G., Rockwell City  
 Klok, George J., Council Bluffs  
 Kluever, Herman C., Fort Dodge  
 Knight, Benjamin L., Cedar Rapids  
 Knight, Edson C., Marshalltown  
 Knight, Russell A., Rockford  
 Knipfer, Robert L., Jesup  
 Knosp, Norman C., Belle Plaine  
 Knott, Peirce D., Sioux City  
 Knouf, Clare E., Lake City  
 Knowles, Fred L., Fort Dodge  
 Knox, Robert M., Des Moines  
 Knudsen, Hubert K., Clinton  
 Knutsen, Arne, Sioux City  
 Koelling, Lloyd H., Newton  
 Koonitz, Lyle W., Vinton  
 Kopecky, Edward F., Cedar Rapids  
 Kopsa, Walter J., Tipton  
 Koptik, George Jr., Garwin  
 Korfmacher, Edwin S., Grinnell  
 Kornder, Louis H., Davenport  
 Korn, Horace M., Iowa City  
 Kos, Clair M., Iowa City  
 Koser, Donald C., Cherokee  
 Kramer, Jack, Iowa City  
 Krause, Robert E., Ottumwa  
 Krepelka, George E., Osage  
 Krettek, John, Council Bluffs  
 Kriechbaum, James B., Burlington  
 Krigsten, Joe M., Sioux City  
 Krigsten, William M., Sioux City  
 Kroack, Kalman J., Buffalo Center  
 Kruckenberg, William G., Cedar Rapids  
 Krueger, Norman L., Stuart  
 Kruml, Joseph G., Council Bluffs  
 Kruse, Otto E., Tipton  
 \*Kruse, Rufus H., Conrad  
 \*Kuehn, Willard G., Clarinda  
 \*Kuehnle, Gustave R., Dubuque  
 Kuhl, Augustus B., Davenport (L.M.)  
 Kuhl, Augustus B., Jr., Davenport  
 Kuhl, Robert H., Creston  
 Kuhn, Leo C., Decorah  
 Kuhn, Mark A. R., Waterloo  
 Kuker, Leo H., Carroll  
 Kulp, Raymond R., Davenport  
 \*Kurth, Robert J., Waterloo  
 Kurtz, Cecelia M., Cedar Rapids  
 Kyle, William S., Washington
- \*Ladwig, Harold A., Sioux City  
 Lagen, Mansfield S., Dubuque  
 Lagoni, Ralph P., Eldridge  
 Lamb, Frederick H., Davenport  
 Lamb, Harry H., Davenport  
 Lambrecht, Paul, Des Moines  
 Lande, Jacob N., Sioux City  
 Landis, Sylvanus N., Des Moines  
 Langworthy, Henry G., Dubuque (L.M.)  
 Lannon, James W., Mason City  
 Larimer, Robert N., Sioux City  
 Larsen, Elmer A., Centerville  
 Larsen, Frank S., Fort Dodge  
 Larsen, Harold T., Fort Dodge  
 Larsen, Lawrence V., Harlan  
 Larson, Carroll B., Iowa City  
 Larson, Erling, Jr., Des Moines  
 Larson, Gerald E., Elk Horn  
 Larson, Lester E., Decorah  
 Larson, Marvin O., Hawarden  
 LaRue, Jack L., Anita  
 Latchem, Charles W., Des Moines  
 LaTona, Joseph H., Council Bluffs  
 Laube, Paul J., Dubuque  
 Laughlin, Ralph M., Cedar Rapids  
 Lavender, John G., George  
 Lawler, Matthew P., Jr., Des Moines  
 Lawlor, Jeremiah F., Cherokee  
 Lawrence, Joseph W., Dubuque  
 Layton, Jack M., Iowa City  
 \*Lease, Nimrod J., Crawfordsville (L.M.)
- Lederman, Joseph, Oskaloosa  
 Lee, Robert W., Burlington  
 Lee, Wayne R., Burlington  
 Leehy, Paul J., Independence  
 Leffert, Frank B., Centerville  
 Lehr, Sylvan M., Cedar Rapids  
 Leighton, Lewis L., Fort Dodge  
 Leinbach, Samuel P., Belmond  
 Leinfelder, Pladius J., Iowa City  
 Leiter, Herbert C., Sioux City  
 Lekwa, Alfred H., Story City  
 Lemon, Kenneth M., Oskaloosa  
 Lenaghan, Robert T., Clinton  
 Lenzmeier, Albert J., Davenport  
 Leonard, Frederick S., Dubuque  
 Leonard, Thurman K., Madrid  
 LePoidevin, Jean S., Waterloo  
 Levin, Harry M., Waterloo  
 Levy, James W., Sioux City  
 Lewis, Bernard L., Iowa City  
 Lewis, E. Faye C., Webster City  
 Lewis, William B., Webster City  
 Lichter, Theodore W., Edgewood  
 Lierle, Dean M., Iowa City  
 Lierman, Clifford E., Lake View  
 Liken, John A., Creston  
 Limbert, Edwin M., Council Bluffs  
 Limburg, J. Irwin, Jefferson  
 Limburg, John I., Jr., Jefferson  
 Lincoln, Simon E., Des Moines (L.M.)  
 Lindholm, Claire V., Armstrong  
 Lindholm, Hugo A., Armstrong  
 Linder, Enfred E., Ogden  
 Lindley, Ellsworth L., Cedar Rapids  
 Lindley, Stanley B., Knoxville  
 Lindsay, Vernard T., Glidden  
 Liska, Edward J., Ute  
 Lister, Eugene E., Dallas Center  
 Lister, Kenneth E., Ottumwa  
 Littig, Elmer H., Mechanicsville  
 Little, Luther W., Atkins  
 Lloyd, John M., Washington  
 Locher, Robert C., Cedar Rapids  
 Lodwick, Gwilym S., Jr., Iowa City  
 Loock, John F., Independence  
 Loes, Anthony M., Dubuque  
 Lohman, Frederick H., Waterloo  
 Lohmann, Carl J., Burlington  
 Lohr, Phillips E., Churdan  
 Long, Draper L., Mason City  
 Long, Llewelyn L., Atlantic  
 Longworth, Wallace H., Boone  
 Loomis, Frederic G., Waterloo  
 Lorfeld, Gerhard W., Davenport  
 Losasso, David, Davenport  
 Losh, Clifford W., Des Moines  
 Losh, Clifford W., Jr., Des Moines  
 Love, Francis L., Iowa City (L.M.)  
 Lovejoy, E. Parish, Des Moines  
 Loving, Luther W., Estherville  
 Lowry, Charles F., Council Bluffs  
 Loxterkamp, Edward O., Rolfe  
 Lueck, Arthur G., Des Moines  
 Luehrsmann, Bernard C., Dyersville  
 Luke, Edward, Coin  
 Lulu, Donald J., Des Moines  
 Lundvick, Arthur W., Gowrie (L.M.)  
 Luse, Ralph F., Clinton  
 Lutton, John D., Sioux City  
 Lyman, Frank L., Jr., Fort Madison  
 Lyons, John C., Davenport  
 Lyons, Mary L., Des Moines  
 Labagh, Nicholas W., Mystic
- MacGregor, John K., Mason City  
 MacLeod, Hugh G., Greene  
 MacQueen, John C., Iowa City  
 McAllister, James, Odebolt  
 McAllister, William G., Ida Grove  
 McAuliffe, William J., Camanche  
 McBride, James T., Des Moines (L.M.)  
 McBride, Robert H., Sioux City  
 McCaffrey, Eugene H., Des Moines  
 McCall, John H., Allerton  
 McCarthy, Frank D., Sioux City  
 McClean, Earl D., Des Moines  
 McClellan, John W., Onawa  
 McClintock, John T., Iowa City  
 (L.M.)  
 McClintock, Robert S., Iowa City  
 McClure, Gail A., Ames  
 McClurg, Frank H., Fairfield  
 McConkie, Edwin B., Cedar Rapids  
 McConkie, Willis L., Carroll  
 McConnell, Robert W., Davenport  
 McCool, Robert F., Clarion  
 McCoy, Harold J., Des Moines  
 McCoy, John T., Cedar Falls  
 McCrary, W. Ashton, Lake City  
 McCreedy, Murry L., Washington
- McCreight, George C., Des Moines  
 McCuiston, Harry M., Sioux City  
 McDonald, Don J., Cedar Rapids  
 McDowall, Gilbert T., Gladbrook  
 (L.M.)  
 McDowell, William O., Grundy Center  
 (L.M.)  
 McEleney, Donald A., Iowa City  
 McFadden, F. Ross, Davenport  
 McFarland, Guy E., Ames  
 McFarland, Guy E., Jr., Ames  
 McFarland, Julian E., Ames  
 McGahey, William B., Webster City  
 McGarvey, Cornelius J., Des Moines  
 McGeehon, Robert C., Indianola  
 McGill, Arthur A., Danbury  
 McGilvra, Sioux Center  
 McGinnis, George C., Fort Madison  
 McGrane, Merle J., New Hampton  
 McGuire, Kenneth L., Keota  
 McGuire, Roy A., Fairfield  
 McHugh, Charles P., Sioux City  
 McIlce, Raymond C., Fort Madison  
 McIntosh, Philip D., Ottumwa  
 McIntyre, Carl C., Waterloo  
 McKay, Richard V., Jr., Dubuque  
 McKean, Frank F., Allison  
 McKitterick, John C., Burlington  
 McLaughlin, Charles W., Washington  
 (L.M.)  
 McMahon, Arthur E., Jr., Des Moines  
 McMahon, Thomas, Garner (L.M.)  
 McMeans, Thomas W., Davenport  
 McMillan, George J., Fort Madison  
 McMillan, James T., III, Des Moines  
 McMillen, Arch S., Fort Dodge  
 McMurray, Edward A., Newton  
 McNamara, Robert J., Dubuque  
 McNamee, Jesse H., Des Moines  
 McQuiston, J. Stuart, Cedar Rapids  
 McTaggart, William B., Fort Dodge  
 McVay, Melvin J., Lake City  
 Mackin, M. Charles, Des Moines (L.M.)  
 Macrae, James G., Creston (L.M.)  
 Magaret, Ernest C., Glenwood  
 Magdick, Carl C., Charles City  
 Magee, Emery E., Waterloo  
 Mahoney, James D., Council Bluffs  
 Mailliard, Robert E., Storm Lake  
 Maixner, William D., Ottumwa  
 Maland, Donald O., Cresco  
 Maloy, Wayland H., Shenandoah  
 Manderscheid, Robert A., Boone  
 Mangan, J. Thomas, Forest City  
 Manning, Ephraim L., Davenport  
 Manthey, Charles E., Waterloo  
 Mantz, Russell L., Cedar Rapids (L.M.)  
 Mapletorpe, Charles W., Toledo  
 Mapletorpe, Charles W., Jr., Toledo  
 Marble, Edwin J., Marshalltown  
 Marble, Pearl L., Liscomb (L.M.)  
 Marble, Willard P., Marshalltown  
 Margulies, Harold, Des Moines  
 Marinos, Harry G., Mason City  
 Maris, Cornelius, Sanborn  
 Maris, Gerrit, Sioux City  
 Maris, William, Sioux Center  
 Mark, Edward M., Clarksville  
 Mark, Milton S., Des Moines  
 Marker, John I., Davenport  
 Marme, George W., DeWitt  
 Marquis, Fred M., Waterloo  
 Marquis, George S., Des Moines  
 Marsh, Frederick E., Council Bluffs  
 Marsh, Frederick E., Jr., Council Bluffs  
 Marshall, Jean A., Solon  
 Martin, James W., Holstein  
 Martin, Josef R., Carroll  
 Martin, Lee R., Council Bluffs  
 Martin, Ronald F., Madison, Wisconsin  
 Martin, Sidney D., Carroll (L.M.)  
 \*Martins, James K., Waterloo  
 Mason, Edward E., Iowa City  
 Mason, Robert P., Des Moines  
 Mason, Stella M., Mason City (L.M.)  
 Mast, Truman M., Washington  
 Mater, Dwight A., Knoxville  
 Mater, Roy V., Knoxville  
 Matheson, John H., Des Moines  
 Mathiasen, Aileen E., Council Bluffs  
 Mathiasen, Emmett B., Council Bluffs  
 Mathiasen, Henning W., Council Bluffs  
 Mathiasen, John W., Council Bluffs  
 Matthey, Carl H., Davenport  
 Matthey, Walter A., Davenport  
 Mattice, Lloyd H., Sheldon  
 Mattice, Roger J., Sioux Rapids  
 Mauritz, Emory L., Des Moines  
 Maxwell, John, What Cheer  
 Maxwell, Charles T., Sioux City



- May, Charles D., Iowa City  
 May, George A., Des Moines  
 May, Robert B., Knoxville  
 May, Samuel C., Iowa City  
 Mazur, Theodore T., Des Moines  
 Mead, Frank N., Cedar Falls (L.M.)  
 Meany, John F., Rockwell  
 Meffert, Clyde B., Cedar Rapids  
 Megorden, William H., Mount Pleasant  
 Mellen, Robert G., Clinton  
 Mendenhall, Jean C., Independence  
 Meredith, Loren K., Des Moines  
 Merillat, Herbert C., Des Moines  
 Merkel, Arthur E., Des Moines  
 Merkel, Byron C., Des Moines  
 Merritt, Arthur M., Des Moines  
 Merritt, F. Benjamin, Dubuque  
 Mersels, Harold K., Audubon  
 Mershon, Clinton E., Adel (L.M.)  
 Meyer, Paul G., Manchester  
 Meyers, Frank W., Dubuque (L.M.)  
 Meyers, Paul T., Bloomfield  
 Meyers, Robert P., Ottumwa  
 Michaelson, Don, Boone  
 Michener, Robert B., Iowa City  
 \*Middleton, William H., Central City  
 Mighell, Scott J., Des Moines  
 Mikelson, Clarence J., Waterloo  
 Miller, Chester I., Iowa City  
 Miller, Donald F., Williamsburg  
 Miller, Enos D., Wellman  
 Miller, Howard L., Cedar Rapids  
 Miller, Jay R., Wellman  
 Miller, Lawrence A., North English  
 Miller, Lawrence A., II, North English  
 Miller, Richard L., Waterloo  
 Miller, Robert C., Waterloo  
 Miller, Temple M., Muscatine  
 Miller, Wilbur R., Iowa City  
 Millice, Glenn S., Battle Creek  
 Mills, Frank W., Ottumwa (L.M.)  
 Miltner, Leo J., Davenport  
 Minassian, Harootune A., Des Moines (L.M.)  
 Minassian, Thaddeus A., Des Moines  
 Miner, James B., Charles City  
 Minkel, Roger M., Fort Dodge  
 Mirick, Donald F., Clinton  
 Mitchell, Claire H., Cincinnati  
 Mitchell, Richard C., Iowa City  
 Moberly, John W., Dubuque  
 Moe, Ralph H., Griswold  
 Moen, Stanley T., Cedar Rapids  
 Moerke, Robert F., Burlington  
 Moershel, Henry G., Homestead  
 Moershel, William J., Cedar Rapids  
 Monnig, Philip J., Des Moines  
 \*Montgomery, Albert E., Jefferson  
 Montgomery, George E., Ames  
 Montgomery, Guy E., Washington  
 Moon, Barclay J., Cedar Rapids  
 Mooney, James C., Des Moines  
 Moore, Carlyle C., Emmetsburg  
 Moore, Edson E., Fort Dodge  
 \*Moore, Harold H., Ottumwa  
 Moore, Harris C., Clearfield  
 Moore, Jesse C., Eldon  
 Moore, Pauline V., Iowa City  
 Moore, Richard M., Des Moines  
 Moorehead, Harold B., Underwood  
 Mordaunt, Richard H., Nevada  
 Morgan, Francis W., Ottumwa  
 Morgan, Harold W., Mason City  
 Morgan, Paul W., Mason City  
 Morgan, Rex L., Sioux City  
 Morgenthaler, Otis P., Templeton (L.M.)  
 Moriarty, John F., Atlantic  
 Moriarty, Lauren R., Kansas City, Kans.  
 Morris, Lucien E., Iowa City  
 Morris, Zenella E. N., Stockport (L.M.)  
 Morrison, John R., Glidden  
 Morrison, John W., Alta  
 Morrison, Robert E., Waterloo  
 Morrison, Roland B., Carroll  
 Morrison, Wesley J., Cedar Rapids (L.M.)  
 Morrissey, George E., Davenport  
 Morrissey, William J., Des Moines  
 Morse, Charles H., Eagle Grove (L.M.)  
 Morton, Matthew T., Estherville  
 Mosher, Martin L., Jr., Iowa City  
 Mott, William H., Farmington (L.M.)  
 Mountain, George E., Des Moines  
 Moyers, Jack, Iowa City  
 Mugan, Robert C., Sioux City  
 Mullmann, Arnold J., Perry  
 Mulsov, Frederick W., Cedar Rapids  
 Munger, Elbert E., Jr., Spencer  
 Munns, Richard E., Hampton  
 Murchison, Kenneth, Sidney (L.M.)  
 Murphey, Arlo L., Fredericksburg  
 Murphy, Cornelius B., Alton  
 Murphy, George C., Waterloo  
 Murphy, James H., Des Moines  
 Murray, Frederick G., Cedar Rapids (L.M.)  
 Murray, Johnathan H., Burlington  
 Murtaugh, James E., New Hampton  
 Myerly, William H., Des Moines  
 Myers, Edward M., Dallas, Texas (L.M.)  
 Myers, Judson W., Postville  
 Myers, Kermit W., Sheldon  
 Myers, Robert W., Monticello  
 Nash, Edwin A., Ottumwa  
 \*Neagle, Paul E., Dubuque  
 Neal, Emma J., Cedar Rapids (L.M.)  
 Nederhiser, Morgan I., Cascade  
 Needles, Roscoe M., Atlantic  
 Neglia, Fortunato J., Maxwell  
 Neligh, Gordon L., Jr., Council Bluffs  
 Nelken, Leonard, Clinton  
 Nelson, Arnold L., Des Moines  
 Nelson, Frederick L., Ottumwa  
 Nelson, F. Lawrence, Jr., Ottumwa  
 \*Nelson, Harry E., Dayton (L.M.)  
 Nelson, Leo C., Jefferson  
 Nelson, Paul O., Emmetsburg  
 Nelson, Robert J., Clinton  
 Nemec, Joseph J., Cedar Rapids  
 Nemmers, Gerald J., Washington  
 Netolicky, Robert Y., Cedar Rapids  
 Neufeld, Robert J., Davenport  
 Neuzil, William J., Cedar Rapids  
 Newland, Don H., Belle Plaine  
 Newman, Robert W., Iowa City  
 Niblock, George F., Denver, Colorado (L.M.)  
 Niccum, Warren L., Iowa City  
 Nicholson, Clyde G., Des Moines  
 Nicoll, Charles A., Panora  
 Nicoll, David T., Mitchellville (L.M.)  
 Nielsen, Arnold T., Ankeny  
 Nielsen, Glen E., Des Moines  
 Nielsen, Rudolph F., Cedar Falls  
 Nielson, Arthur L., Council Bluffs  
 Niemann, Theodore V., Brooklyn  
 Nierling, Paul A., Cresco  
 Noble, Nelle S., Des Moines (L.M.)  
 Noble, Rusl P., Alta  
 Noe, Carl A., Cedar Rapids  
 Noe, Charles F., Amana (L.M.)  
 Nolan, John C., Corning  
 Nomland, Ruben, Iowa City  
 Noonan, James J., Marshalltown  
 Nord, Donald H., Cambridge  
 Nordin, Charles A., Des Moines  
 Norris, Lewis D., Newton  
 North, Frank R., Winfield  
 Norton, Alva C., Rockwell City (L.M.)  
 Noun, Louis J., Des Moines  
 Noun, Maurice H., Des Moines  
 Nyquist, David M., Eldora  
 Ober, Frank G., Burlington  
 O'Brien, Lyl J., Fort Dodge  
 O'Brien, Stephen A., Mason City  
 O'Connor, Edwin C., New Hampton  
 O'Donnell, Joseph E., Clinton  
 O'Donoghue, Archibald F., Sioux City  
 O'Donoghue, James H., Storm Lake  
 Oelrich, Carl D., Sioux Center  
 Oggel, Herman D., Maurice (L.M.)  
 O'Keefe, Paul T., Waterloo  
 O'Leary, Francis B., Sibley  
 Olin, Elvin E., Dubuque  
 Olsen, Martin I., Des Moines  
 Olsen, Max E., Minden  
 Olsen, Ranald E., Milton  
 Olson, Evelyn M., Winterset  
 Olson, Nels, Lake Mills  
 Olson, Russell L., Northwood  
 O'Neal, Harold E., Tipton  
 Orcutt, Paul E., Marion  
 Orton, Lawrence C., Mason City  
 Osborn, C. Robert, Dexter  
 Osincup, Paul W., Sioux City  
 Osten, Burdette H., Northwood  
 O'Toole, Laurence C., Le Mars  
 O'Toole, Roger L., Waterloo  
 Ottilie, Donald J., Oelwein  
 Otto, Paul C., Fort Dodge  
 Owca, Anthony S., Centerville  
 Owen, William E., St. Ansgar  
 Pace, Arthur A., Toledo (L.M.)  
 Page, Wesley M., Montezuma  
 Pagelsen, Otto H., Pharr, Texas (L.M.)  
 Pahlas, Henry M., Dubuque  
 Paige, Ralph T., La Porte City  
 Painter, J. Carl, Dubuque  
 Palmer, Carson W., Guttenberg  
 Palmer, Howard C., Nichols  
 Palumbo, Louis T., Des Moines  
 Paragas, Modesto R., Creston  
 Parish, John R., Grinnell  
 Parke, John, Cedar Rapids  
 Parker, Loran F., Iowa Falls  
 Parker, Robert L., Des Moines  
 Parks, Claude O., Iowa City  
 Parry, Roy E., Scranton  
 Parson, Victor G., Des Moines  
 Parsons, John C., Des Moines  
 Paschal, George A., Webster City  
 Pascoe, Paul L., Carroll  
 Patterson, John N., Burlington (L.M.)  
 Patterson, Roy A., Webster City  
 Paul, John D., Anamosa  
 \*Paul, Richard E., Des Moines  
 Paul, William D., Iowa City  
 Paulsen, Donald A., Victor  
 Paulsen, Herbert B., Harris  
 Paulson, Jerome F., Mason City  
 Paulus, Edward W., Iowa City  
 Paulus, James W., Dubuque  
 Pearlman, Leo R., Des Moines  
 Pearson, George J., Burlington  
 Peart, John C., Davenport  
 Peasley, Harold R., Des Moines  
 Peck, Raymond E., Davenport  
 Pedersen, Arthur M., Council Bluffs  
 Peggs, Harold J., Creston  
 Peisen, Conan J., Des Moines  
 Pelz, Werner P., Charles City  
 Penly, Don H., Cedar Falls  
 Penn, Eugene C., Poulson, Montana  
 Perel, Ada R., Iowa City  
 Perkins, Franklin C., Hedrick  
 Perkins, Rollin M., II, Davenport  
 Perley, Arthur E., Waterloo  
 Perman, Harvey H., Forest City  
 Perrin, H. Joyce, Des Moines  
 Pester, George H., Council Bluffs  
 Petersen, Donald C., Burlington  
 Petersen, Emil C., Atlantic  
 Petersen, Millard T., Atlantic  
 Petersen, Robert E., Dubuque  
 Petersen, Vernon W., Clinton  
 Peterson, Elroy R., Ames  
 Peterson, Frank R., Cedar Rapids  
 Peterson, John C., Jr., Hartley  
 Peterson, Loren G., Holstein  
 Peterson, Ray W., Clear Lake  
 \*Pfaff, Robert A., Dubuque  
 Pfeiffer, Ernst, Hartley  
 Pfeiffer, Harry E., Cedar Rapids  
 Pfohl, Anthony C., Dubuque  
 Phelan, M. Patricia, Altoona  
 Phelps, Charles R., Ottumwa  
 Phelps, Gardner D., Waterloo  
 Phelps, Richard E. H., New Sharon  
 Pheteplice, Willard S., Davenport  
 Phifer, Robert L., Davenport  
 Phillips, Albin B., Clear Lake (L.M.)  
 Phillips, Allan B., Des Moines  
 Phillips, Clarence P., Muscatine  
 Phillips, Walter B., Montezuma  
 Phelan, Marvin F., S. Rhodesia, Africa  
 Pickenbrock, Frank J., Dubuque  
 Piercy, Kenneth C., Ames  
 Pierson, Lawrence E., Sioux City  
 Pitcher, Arlo L., Belmond  
 Pitluck, Harry L., Laurens  
 Pittinger, Charles, Iowa City  
 Plager, Vernon H., Waterloo  
 Plankers, Arthur G., Dubuque  
 Plass, Everett D., Saranac Lake, New York (L.M.)  
 Poepsel, Frank L., West Point  
 Ponseti, Ignacio V., Iowa City  
 Poore, Samuel D., Villica  
 Porter, Charles E., Redfield  
 Porter, Richard C., Des Moines  
 Porter, Robert J., Des Moines  
 Porter, S. Dale, Grinnell  
 Posner, Edward R., Des Moines (L.M.)  
 Posner, Edward R., Jr., Des Moines  
 Powell, Adrian R., Elkader  
 Powell, Lester D., Des Moines  
 Powell, Robert A., Shenandoah  
 Powers, George H., Shenandoah  
 Powers, Henry R., Emmetsburg  
 Powers, Ivan R., Waterloo  
 Powers, John L., Estherville  
 Preece, Wade O., Waterloo  
 \*Prendergast, Louis J., Iowa City  
 Prescott, Kenneth H., Storm Lake  
 Presnell, William H., Charlotte



- Prettyman Oscar R., Manson  
 Prewitt, Leland H., Ottumwa  
 Price, Alfred S., Des Moines  
 \*Priessman, Frank A., Keokuk  
 Priestley, Joseph B., Des Moines  
 Proctor, Rothwell D., Cedar Rapids  
 Prouty, James V., Cedar Rapids  
 ★Province, William Jr., Dubuque  
 Ptacek, Joseph L., Webster City  
 Pugh, Philip F. H., Sioux City  
 Pumphrey, Loira C., Keokuk  
 ★Punttenney, Andrew W., Boone  
 Purdy, William O., Des Moines
- Quinn, Francis P., Dubuque
- Radeliffe, Christian E., Iowa City  
 Rahn, Gordon E., Mt. Vernon  
 Ralston, Furman P., Knoxville  
 Rambo, David T., Ottumwa (L.M.)  
 Ramsdell, Stuart T., Clarinda  
 Randall, John H., Iowa City  
 Randall, Ross G., Waterloo  
 Randall, William L., Hampton  
 Rankin, Isom A., Iowa City  
 Rankin, John R., Keokuk  
 Rankin, William, Keokuk  
 Ransom, Harry E., Des Moines  
 Rater, David L., Ottumwa  
 Rathe, Herbert W., Waverly  
 Rausch, Gerald R., Sioux City  
 Raw, Elmer J., Pierson (L.M.)  
 Reading, Donald S., Iowa City  
 Readinger, Harry M., New London  
 Redfield, Earl L., Des Moines  
 Redmond, James J., Cedar Rapids  
 Redmond, Thomas M., Monticello  
 Reed, Andrew L., Estherville  
 Reed, Paul A., Iowa City (L.M.)  
 Reed, Purl E., Council Bluffs  
 Reed, Robert J., Des Moines  
 Reeder, James E., Sioux City  
 Reeder, James E., Jr., Sioux City  
 Reedholm, Edwin A., Grundy Center  
 Reimers, Robert S., Fort Madison  
 Reinecke, Edward L., Dubuque (L.M.)  
 Rembolt, Raymond R., Iowa City  
 Rence, William G., Sigourney  
 Render, Norman D., Clarinda  
 Reuber, Roy N., Mason City  
 Reuling, Frank H., Waterloo  
 Reynolds, Albert C., Des Moines (L.M.)  
 ★Rhode, Marvin C., Iowa City  
 Rhodes, John M., Pocahontas  
 Rice, Floyd W., Des Moines  
 Richardson, Francis H., Iowa City  
 Richardson, Leon F., Collins (L.M.)  
 Richey, Granville L., Centerville  
 Richmond, Arthur C., Fort Madison  
 Richmond, Frank R., Fort Madison  
 Richmond, Paul C., New Hampton  
 Richter, Harold J., Albia  
 Ridenour, Edward J., Dunkerton  
 Ridenour, Joseph E., Waterloo (L.M.)  
 Rider, Harmon E., Sioux City  
 Riegelman, Ralph H., Des Moines  
 Rieniets, John H., Cedar Rapids  
 Riggert, Leonard O., San Diego, Calif.  
 Rimel, George W., Bedford  
 Rindskopf, Wallace, Des Moines  
 Ringena Engelke J., Brooklyn  
 Rinker, George E., Oto (L.M.)  
 Ritter, Eugene F., Centerville  
 Rizzo, Frank M., Sibley  
 Robb, James B., Chariton (L.M.)  
 Robb, William J., Cedar Rapids  
 Roberts, Charles R., Dysart  
 Roberts, F. LeRoy, Corona, Calif. (L.M.)  
 Roberts, Francis M., Knoxville (L.M.)  
 Roberts, Justus B., Ottumwa  
 Robertson, Treadwell A., West Liberty  
 Robinson, George L., Hudson  
 Robinson, Robert E., Waverly (L.M.)  
 Robinson, Van C., Des Moines  
 Rock, John E., Davenport  
 Rock, J. Gordon, Davenport  
 Rockwell, Maryelda, Clinton  
 Rodawig, Don F., Spirit Lake  
 Roddy, Harold J., Mason City  
 Rodemeyer, Frederick H., Sheffield  
 ★Rodgers, Lewis A., Oskaloosa (L.M.)  
 Roe, Cullen B., Afton  
 Rogers, Claude B., Earlville (L.M.)  
 Rogers, Edward A., Anamosa  
 Rohlf, Edward L., Jr., Waterloo  
 Rohrbacher, William M., Iowa City  
 Rohwer, Roland T., Sioux City  
 Rolfs, Floyd O., Parkersburg  
 Rolfs, Fred A., Aplington
- Romine, John H., Webster City (L.M.)  
 Rominger, Clark R., Waukon  
 Rominger, Clark W., Waukon  
 Roney, Wayne M., Iowa City  
 Roost, Frederick H., Sioux City (L.M.)  
 Rose, Alvin A., Story City  
 Rose, Joseph E., Grundy Center  
 Rosebrook, Lee E., Ames  
 Rosendorff, Charlotte, Bettendorf  
 Ross, Arthur J., Jr., Perry  
 Rost, Glenn S., Lake City  
 Rotkow, Maurice J., Des Moines  
 Rowat, Harry L., Des Moines (L.M.)  
 Rowe, John J., Cedar Falls  
 Rowley, Robert D., Burlington  
 Rowley, William G., Sioux City  
 Rowney, George W., Sioux City  
 Royal, Lester A., West Liberty  
 Royal, Malcolm A., Des Moines  
 Rudersdorf, Howard E., Sioux City  
 Rugtvi, George M., Des Moines  
 Ruliffson, Howard D., Storm Lake  
 Ruml, Wentzle, Cedar Rapids (L.M.)  
 Rusk, Ross P., Dubuque  
 Russ, Jesse E., Rake  
 Russell, Elwood P., Burlington  
 Russell, John, Yuma, Arizona (L.M.)  
 Russell, Ralph E., Waterloo  
 Rust, Emery A., Webb  
 Ruth, Verl A., Des Moines  
 Ryan, Allen J., Harlan  
 Ryan, Charles M., Sioux City  
 Ryan, Cyril J., Creston  
 Ryan, Martin J., Sioux City  
 Ryan, Robert A., Fairfield
- Saar, Jesse L., Donnellson  
 Saar, Jesse L., Jr., Burlington  
 Saar, John W., Keokuk  
 Sabs, Adolph L., Iowa City  
 St. Onge, Joseph A., Sioux City  
 Samberg, Harry H., Des Moines  
 Sampson, Carl E., Creston  
 Sampson, Frank E., Creston (L.M.)  
 Sams, Joseph H., Clarion (L.M.)  
 Sanders, George E., Des Moines (L.M.)  
 Sanders, Matthew G., Fort Dodge  
 Sanders, William E., Pasadena, California (L.M.)  
 Sands, Sidney L., Des Moines  
 Sarff, Floyd G., Logan  
 Sartor, Guido J., Mason City  
 Sartor, Pierre, Titonka (L.M.)  
 Satrang, Geraldine, Sioux City  
 Sattler, Dwight G., Kalona  
 Sauer, Harold E., Marshalltown  
 ★Saunders, Robert J., Colfax  
 Sautter, Robert A., Mt. Vernon  
 Sawyer, Grace M., Woodward  
 Sawyer, Prince E., Sioux City (L.M.)  
 Sayre, Ivan K., St. Charles  
 Scales, E. Thomas, Des Moines  
 Scanlan, George C., Omaha, Nebraska (L.M.)  
 Scanlon, George H., Iowa City  
 Schacht, Norman A., Fort Dodge  
 Schaefer, Paul H., Chicago, Illinois (L.M.)  
 Schaeferle, Lawrence G., Gladbrook  
 Schaeferle, Martin J., Eagle Grove  
 Schafer, Leander H., DeWitt  
 Schanche, Arthur N., Ames  
 Scharle, Theodore, Dubuque  
 Scheffel, Melvin L., Malvern  
 Scheibe, John R., Bloomfield  
 Scheldrup, E. W., Iowa City  
 Schiff, Joseph, Spokane, Washington  
 Schill, Austin E., Des Moines  
 Schissel, Donald, Des Moines  
 Schlaser, Verne L., Des Moines  
 ★Schlichtemeier, Ellis O., Peterson  
 Schmitz, Henry C., Des Moines  
 Schnug, George E., Dows  
 Schoonover, Richard, Bloomfield  
 Schrier, Harold L., Fort Madison  
 Schrock, Christian E., Sioux City  
 Schroeder, Adrian J., Marshalltown  
 Schroeder, Frank N., Ryan  
 Schroeder, Leslie V., Walcott  
 Schropp, Rutledge C., Des Moines  
 Schrup, Joseph H., Dubuque (L.M.)  
 Schueller, Charles J., Dubuque  
 Schultz, Ivan T., Humboldt  
 Schultz, Nelle E. T., Humboldt  
 Schutter, John M., Algona  
 Schwartz, John W., Sioux City  
 Sciscent, Verdi I., Waterloo  
 Scott, Phillip A., Spirit Lake  
 Scott, Sophie H., Des Moines (L.M.)  
 Seaman, Charles L., Cherokee
- Sedlacek, Leo B., Cedar Rapids  
 Seeborn, Paul M., Iowa City  
 Seely, Harmon D., Cherokee  
 Seibert, Cecil W., Waterloo  
 Seidler, William A., Jr., Jamaica  
 Seiler, Raymond A., Blairstown  
 Sellards, Joseph W., Clarinda (L.M.)  
 Sells, Benjamin B., Independence  
 Selman, Ralph J., Ottumwa  
 Selo, Rudolph A., Council Bluffs  
 Senska, Frank R., Brandon  
 Senty, Elmer G., Davenport  
 Severson, George J., Slater  
 Severson, Wayne L., Slater  
 Shafer, Arthur W., Davenport  
 Shafer, Lee E., Davenport  
 Shane, Robert S., Pilot Mound  
 Shannon, Edwin R., Waterloo (L.M.)  
 Sharpe, Donald C., Dubuque  
 Shaw, Albert E., Des Moines  
 Shaw, David F., Britt  
 Shaw, Robert E., Waverly  
 Shea, Thomas E., Storm Lake  
 Sheeler, Ivan H., Des Moines  
 Sheets, Raymond F., Iowa City  
 Shelton, Charles D., Bloomfield (L.M.)  
 Shepherd, Loyd K., Des Moines  
 Sherman, Richard C., Farley (L.M.)  
 Shiffler, H. Kirby, Des Moines  
 Shohet, Isaac H., Bode  
 Shonka, Thomas E., Malvern  
 Shope, Charles D., Greenfield  
 Shorey, Joseph R., Davenport  
 Shrader, John C., Fort Dodge  
 ★Shuldberg, Arthur, Des Moines  
 Shulkin, Sam H., Sioux City  
 Shulman, Herbert, Waterloo  
 Shurts, John J., Eldora  
 Sibley, Edward H., Sioux City  
 Simmons, Ralph R., Des Moines  
 Singer, John R., Newton  
 Singer, Siegmund F., Ottumwa  
 Sinn, Irvin J., Williamsburg  
 Sinning, Augustus, Iowa City (L.M.)  
 Sinning, John E., Marshalltown  
 ★Sinton, David W., Iowa City  
 Skaggs, Joseph T., Iowa City  
 Skelley, Paul B., Jr., Dubuque  
 Skoog, Allan P., Ames  
 Skultety, F. Miles, Iowa City  
 Skultety, James A., Des Moines  
 Sloan, Fredric J., Cedar Rapids  
 Sloan, Fred R., Waterloo  
 Smazal, Stanley F., Davenport  
 Smead, Howard H., Des Moines  
 Smead, Leslie L., Newton  
 Smiley, George W., Oakdale  
 Smiley, Ralph E., Mason City  
 Smith, Andrew D., Mediapolis  
 Smith, Anthony P., Waucoma  
 Smith, Arthur F., Manning  
 Smith, Cecil R., Wyoming  
 ★Smith, Charles B., Iowa City  
 Smith, Elmer M., Eagle Grove  
 Smith, Eugene, Waterloo  
 Smith, Harold F., Iowa City  
 Smith, Herman J., Des Moines  
 Smith, Homer A., Correctionville  
 Smith, Howard W., Woodward  
 Smith, Jason N., Iowa City  
 Smith, John E., Clarence (L.M.)  
 Smith, Lawrence D., Des Moines  
 Smith, Rex I., Waterloo  
 Smith, Richard W., Clarion  
 Smith, Robert A., Albia  
 Smith, Robert T., Granger  
 Smith, Rodger B., Mason City  
 Smith, Rodmond, Red Oak  
 Smith, Sidney D., Waterloo  
 Smouse, William O., Des Moines (L.M.)  
 Smrha, James A., Cedar Rapids  
 Smyth, William T., Iowa City  
 Smythe, Arnold M., Des Moines  
 ★Snook, Lee O., Jr., Wesley  
 Snyder, Dean C., DeWitt  
 Snyder, Raleigh R., Des Moines  
 Sohm, Herbert A., Des Moines  
 Sokol, Charles R., State Center  
 Sones, Clement A., Des Moines  
 Sorensen, Elmer M., Red Oak  
 Sorensen, Aral C., Davenport  
 Sorensen, Kermit R., Sabula  
 Sorensen, Philip W., Cedar Falls  
 Southwick, William W., Marshalltown  
 Spain, Robert T., Conrad (L.M.)  
 Sparks, Francis R., Waverly (L.M.)  
 Spear, William, Oakdale  
 Spearing, Joseph H., Harlan



- Speidel, Glenn P., Hartford, Connecticut
- Spellman, George G., Sioux City
- Spellman, Martin T., Cedar Rapids
- Spencer, Philip L., Essex
- Sperow, Wendell B., Nevada
- Sperry, Frederick S., Clarinda
- Spevak, Jack, Des Moines
- Spielhagen, Gunther F., Iowa City
- Spohnheimer, L. Nelson, Donnellson
- Springer, Floyd A., Des Moines
- Sproul, William M., Des Moines
- Stalford, John H., Sac City (L.M.)
- Stam, Nicholas C., Mason City
- Stamler, Frederic W., Iowa City
- Standefer, Joe M., Des Moines
- Standeven, James W., Oakland
- Stansbury, John E., Cedar Rapids
- Stark, Callistus H., Cedar Rapids
- Stark, Frederick M., Sioux City
- Starr, Charles F., Mason City (L.M.)
- Starry, Allen C., Sioux City
- Statton, Roy F., La Porte City
- Stauch, Martin O., Moorhead
- Stauch, Omar A., Sioux City
- Staudt, Alfred J., Waterloo
- Steenrod, Emerson J., Iowa Falls
- Steffens, Lincoln F., Dubuque
- Steffey, Fred L., Keokuk
- Stegmaier, Otto C., Davenport
- Stegman, Jacob J., Marshalltown
- Steinberger, George C., Des Moines
- Steindler, Arthur, Iowa City (L.M.)
- Stephen, Paul, Cedar Rapids
- Stephen, Raymond J., Cedar Rapids
- Stepp, James K., Manchester
- Sternagel, Fred, West Des Moines
- Sternberg, Walter A., Mount Pleasant (L.M.)
- Sternhill, Irving, Mason City
- Sternhill, Isaac, Council Bluffs
- Stevens, Clark W., Dubuque
- Stevens, John D., Clarinda
- Stevenson, Eber F., Waterloo (L.M.)
- Stevens, Richard J., Des Moines
- Stewart, John H., Ottumwa
- Stewart, John K., Clinton
- Stewart, William L., Mediapolis
- Stickler, Robert B., Des Moines
- Stimac, Emil M., Davenport
- Stinson, Alice C., Estherville (L.M.)
- Stitt, Paul L., Fort Dodge
- Stoakes, Charles S., Lime Springs
- Stober, Raymond W., Charles City
- Stolley, J. George, Moville
- Storck, Robert D., Dubuque
- Straub, Joseph J., Dubuque
- Strawn, John T., Des Moines
- Stribley, Harry A., Dubuque
- Stroy, Herbert E., Osceola
- Stuart, Percy E., Nashua (L.M.)
- Stueland, Alvin J. R., Mason City
- Stumme, Ernest H., Denver
- ★Stutsman, Robert E., Washington
- Suchomel, Thomas F., Cedar Rapids
- ★Sugioka, Kenneth, Iowa City
- Sullivan, John C., Des Moines
- Sullivan, John J., Oak Lawn, Illinois
- Sulzbach, John F., Burlington
- Summers, Thomas B., Iowa City
- Sun, Kuei shu, Ames
- Sunderbruch, John H., Davenport
- Svendsen, Reinert N., Decorah
- Swanson, Eric M., Iowa City
- Swanson, Gerald W., Lamoni
- Swanson, Leslie W., Mason City
- Swayze, V. Warren, Muscatine
- Sweeney, Lloyd J., Sanborn
- Swift, Frederick J., Maquoketa (L.M.)
- Swift, Frederick J., Jr., Maquoketa
- Sybunga, Jacob J., Pella
- Synhorst, John B., Des Moines
- Sywassink, George A., Muscatine
- Taber, Rodman E., Iowa City
- Tait, John H., Des Moines
- Tamisesa, Francis X., Missouri Valley
- Taylor, Charles B., Claremont, Calif. (L.M.)
- Taylor, Charles I., Pomeroy (L.M.)
- Taylor, James H., Des Moines
- Taylor, Lawrence A., Ottumwa
- Taylor, Maude, Ottumwa
- Taylor, Robert S., Davenport
- Taylor, Wendel W., Sheffield
- Tempel, Paul F., Steamboat Rock
- Teufel, John C., Davenport
- Thaler, David, Cedar Rapids
- Tharp, Herbert M., Monroe
- Thatcher, Wilbur C., Fort Dodge
- ★Theilen, Ernest O., Iowa City
- Thein, Garfield M., Oelwein
- Theisen, Roy I., Dubuque
- Thielen, Edward W., Waterloo
- Thielen, John B., Fonda
- ★Thistlewaite, Edward A., Des Moines
- Thoman, William S., Sioux City
- Thomas, Clifford W., Mason City
- Thomas, Clyde E., Keystone
- Thomas, Colin G., Jr., Monticello
- Thomas, James H., Sibley
- Thomas, James R., Evansdale
- Thomas, William H., McGregor (L.M.)
- Thompson, E. Dean, Jefferson
- Thompson, Howard E., Dubuque
- Thompson, James R., Waterloo
- ★Thompson, James W., Ames
- Thompson, Kenneth L., Oakland
- Thompson, Virginia D., Des Moines
- Thomsen, John G., Des Moines
- Thomsen, Thomas F., Red Oak (L.M.)
- Thorburn, Oral L., Ames
- Thornburg, William v., Guthrie Center (L.M.)
- ★Thornton, F. Eberle, Des Moines
- Thornton, John W., Lansing
- Thornton, Thomas F., Waterloo
- Thornton, Thomas F., Jr., Waterloo
- Thorsness, Edwin T., Dubuque
- Thorson, John A., Dubuque
- Throckmorton, J. Fred, Des Moines
- Throckmorton, Jeannette D., Des Moines (L.M.)
- Throckmorton, Robert F., Des Moines (L.M.)
- Throckmorton, Scott L., Chariton
- Throckmorton, Tom B., Des Moines
- Throckmorton, Tom D., Des Moines
- Tice, Claude B., Mason City (L.M.)
- Tice, George I., Mason City
- ★Tice, Wayne K., Iowa City
- Tice, William A., Waterloo
- Tidrick, Robert T., Iowa City
- Tiedeman, John P., Sioux City
- Tierney, Edmund J., Sioux City
- Tierney, James M., Carroll
- Tilton, John J., Bellevue
- Tinley, Mary L., Council Bluffs (L.M.)
- Tinley, Mathew A., Council Bluffs (L.M.)
- Titus, Elton L., Iowa City (L.M.)
- Todd, Donald W., Guthrie Center
- Tolliver, Hillard A., Charles City
- Toubes, Abraham A., Des Moines
- TouVelle, Alwyn R., Bettendorf
- Towle, Robert A., Davenport
- Tracy, John S., Sioux City
- Trafton, Harold F., Council Bluffs
- Traister, John E., Eddyville
- Treichler, Howard P., Waterloo
- Trey, Bernard L., Marshalltown
- Treynor, Jack V., Council Bluffs
- Trier, Paul J., Des Moines
- Trimbo, Joseph O., Chelsea (L.M.)
- Trotzig, Joseph P., Akron
- ★Troxel, John F., Cedar Rapids
- Trueblood, Clare A., Indianola
- Trumpe, William D., Cedar Rapids
- Trunnell, Thomas L., Waterloo
- Tucker, Francis C., Cedar Rapids
- Turner, Howard V., Des Moines
- Turner, Lee R., Renwick
- Turner, Rosalie C., Nashua
- Turner, Roy M., Armstrong
- Turner, William R., Fort Dodge
- Tyrell, John E., Manchester
- ★Uchiyama, John K., Des Moines
- Underinner, Robert E., Sioux City
- Unger, David, Des Moines
- Updegraff, Charles L., Boone
- Updegraff, Robert R., Des Moines
- Updegraff, Thomas R., Waterloo
- Utterback, Robert A., Iowa City
- Valiquette, Frank G., Sioux City
- Van Camp, Thomas H., Breda
- Vance, Margaret, Iowa City
- Vander Meulen, Herman C., Pella
- Vander Stoep, Harry L., Le Mars
- Vander Veer, Frank L., Janesville (L.M.)
- Van Epps, Clarence E., Iowa City (L.M.)
- Van Epps, Eugene F., Iowa City
- Vangness, Ingmar C., Sioux City
- Van Metre, Paul W., Rockwell City
- Van Patten, Ernest M., Fort Dodge
- Van Tiger, William H., Eldora
- Van Werden, Benjamin D., Keokuk
- Van Zante, Peter, Pella
- Vaubel, Ellis K., Estherville
- Veldhouse, Richard H., Cedar Rapids
- Veltman, John F., Winterset
- Vermeer, Gerritt E., Sheldon
- Vespa, Raymond, Des Moines
- Victorine, Edward M., Cedar Rapids
- ★Vincent, Jack F., Fort Dodge
- Vincent, John W., Sioux City
- Viner, Thomas R., Leon
- Vineyard, Thomas L., Ottumwa
- Voelker, Chris A., Iowa City
- Voigt, Ernest J., Burlington
- Voigt, Franz O. W., Oskaloosa
- von Lackum, J. Kenneth, Cedar Rapids
- ★von Lackum, LeRoy F., Oelwein
- ★Voorhees, Philip H., Ottumwa
- Vorhes, Carl E., Sheldon
- Vorisek, Elmer A., Des Moines
- Vorpahl, Rudolph A., Cedar Rapids
- Vosika, Edward J., Shelby
- Voss, Otto R., Davenport
- Waggoner, Charles V., Clinton
- Wagner, Donald J., Sioux City
- Wagner, Eugene C., Plainfield
- Wagner, James A., Primghar
- Wahrer, Frederick L., Marshalltown
- Wainwright, Max T., Sioux City
- Waldmann, Edward B., Rochester, Minnesota
- Walker, Charles C., Des Moines
- Walker, Glenn L., Burlington
- Walker, Harry L., Cedar Rapids (L.M.)
- Walker, Herbert P., Clarion (L.M.)
- ★Walker, John R., Waterloo
- Walker, Thomas G., Riceville
- Walker, Thomas S., Riceville (L.M.)
- Wall, David, Ames
- ★Wall, John M., Boone
- Walliker, Wilbur L., Clinton (L.M.)
- Walsh, Eugene L., Huntington, West Virginia
- Walsh, William E., Hawkeye
- Walston, Edwin B., Des Moines (L.M.)
- ★Walston, James H., Gaetinger
- Walton, Seth G., Hampton
- Walz, Donald V., Iowa City
- Wanamaker, Ambrose R., Hamburg
- Ward, Donovan F., Dubuque
- Ward, Loraine W., Oelwein
- Ward, Thomas L., Arnold's Park
- Ware, Stephen C., Iowa City
- Warner, Emory D., Iowa City
- Waterbury, Charles A., Jr., Waterloo
- ★Watson, Charles F., Stacyville
- Watson, Elbert J., Diagonal (L.M.)
- Watters, George H., Des Moines
- Watts, A. Fred, Creston
- Watts, Campbell F., Cedar Rapids
- Watts, Clyde F., Marengo
- Weaver, David F., Davenport
- Weaver, Kenneth H., Union
- Weaver, Ralph L., Cumberland
- Webb, Daniel R., Oakdale
- Weber, Leslie E., Wapello
- Weber, Frank N., Walnut
- Weber, William W., Pomeroy
- Weems, Nev E., Paullina
- Wehman, Edward J., Burlington
- Weih, Elmer P., Clinton
- Weinberg, Harry B., Davenport
- Weingart, Julius S., Des Moines
- Weir, Edward C., Council Bluffs (L.M.)
- Weir, Matt B., Atlantic
- Weis, Howard A., Davenport
- Weland, Regis E., Cedar Rapids
- Wells, Fred L., Des Moines (L.M.)
- Wells, Rodney C., Marshalltown
- Wentworth, Laydon S., Marble Rock
- Wentzien, Albert J., Tama
- Werner, Harold T., Fort Madison
- West, Alroy G., Council Bluffs
- West, Norman D., Avoca
- West, Walter E., Centerville
- Westly, Gabriel S., Manly
- Westly, G. Travis, Des Moines
- ★Westly, J. Stephen, Mason City
- Weston, B. Raymond, Mason City
- Weston, Robert A., Des Moines (L.M.)
- Wetrich, Max F., Grand Junction
- Weyer, Joseph J., Fort Dodge
- Wheeler, Richard A., Des Moines
- Whitaker, Ben T., Boone
- White, George H., Des Moines
- White, Paul A., Davenport
- Whitehill, Nelson M., Boone (L.M.)
- Whitehouse, William N., Ottumwa
- Whitley, Ralph L., Osage (L.M.)

Whitmer, Lysle H., Muscatine  
 Whitmire, James E., Sumner  
 Whitmire, William L., Sumner (L.M.)  
 Whitney, David G., Iowa City  
 Wichern, Homer E., Des Moines  
 Wicklund, Maurice M., Waterloo  
 Wicks, Ralph L., Boone  
 Widmer, James G., ~~Waukegan~~  
 Widmer, Reuben B., Winfield  
 ★Wiedemeier, Joseph L., Sioux City  
 Wilcox, Delano, Malcom (L.M.)  
 Wilcox, Dwain E., Atlantic  
 Wilcox, Edgar B., Oskaloosa  
 Wilcox, Keith E., Muscatine  
 Wilcox, Robert A., Iowa City  
 Wildberger, William C., Perry  
 Wiley, Eugene D., Sioux City  
 Wiley, Ralph E., Fontanelle  
 Wilhelm, Raymond W., Sioux City  
 Wilke, Frank A., Perry  
 Wilkinson, Levi J., Laurel  
 Willett, Wilton J., Manchester  
 Williams, Benjamin G., Oskaloosa (L.M.)  
 Williams, Edward B., Montezuma (L.M.)  
 Williams, Frank S., Villisca (L.M.)  
 Williams, Nathan B., Belle Plaine  
 Wilson, Charles R., Manson  
 Wilson, F. Dale, Davenport  
 Wilson, Fredric L., Sioux City  
 Wilson, Fredric W., Sioux City  
 Wilson, Robert G., Missouri Valley  
 Wilt, William G., Jr., Iowa City  
 Winder, Clifford D., Waterloo  
 Winniger, Louis T., Waterloo  
 Winter, F. Donald, Burlington

\*Winter, Louis C., Wilton Junction (L.M.)  
 Wirtz, Arnold O., Shenandoah  
 Wirtz, Dwight C., Des Moines  
 Wise, Arthur C., Iowa City  
 Wise, James H., Cherokee  
 ★Witte, Herbert J., Marathon  
 Witte, Max E., Independence  
 Wolcott, Ruth F., Spirit Lake  
 Wolf, Henry H., Elgin  
 Wolf, William J., West Union  
 Wolfe, Joseph H., Iowa City  
 Wolfe, Otis D., Marshalltown  
 Wolfe, Otis R., Marshalltown  
 Wolfe, Russell M., Marshalltown  
 Wolfe, Wilson C., Ottumwa  
 Wolfson, Harold, Kingsley  
 Wolpert, Paul L., Onawa  
 Wolters, Donald E., Estherville  
 Wolverton, Benjamin F., Cedar Rapids  
 Wood, John R., Wadena  
 Wood, Rollin W., Newton  
 Woodard, Floyd O., Des Moines  
 Woodbridge, James W., Madera, Calif. (L.M.)  
 Woodburn, Chester C., Jr., Des Moines  
 Woodhouse, George R., Vinton  
 Woodhouse, Keith W., Cedar Rapids  
 Woods, Andrew H., Iowa City (L.M.)  
 Woods, Arthur D., State Center  
 Woodward, Lee R., Mason City  
 Woolf, Robert M., Iowa City  
 Woolfolk, Jesse H., II, Waterloo  
 Wooters, Richard C., Des Moines  
 Workman, Robert D., Ruthven  
 Wormhoudt, Herbert L., Ottumwa  
 Worrell, James T., Keosauqua  
 Wray, Clarence M., Iowa Falls (L.M.)

Wray, Robert M., Cedar Rapids  
 Wright, Thomas D., Newton  
 Wright, Walter N., Rose Hill (L.M.)  
 Wubben, Arthur C., Rock Rapids  
 Wunschel, Richard C., Davenport  
 Wurtzer, Ezra L., Clear Lake  
 Wykoff, Sarah U., Des Moines

Yancey, Charles C., Sioux City  
 Yavorsky, George W., Belle Plaine (L.M.)  
 Yetter, William L., Iowa City  
 Yocom, Albert L., Jr., Chariton  
 York, Dallas L., Villisca  
 Young, Ernest R., Dubuque (L.M.)  
 Young, George G., Des Moines  
 Young, Henry C., Bloomfield (L.M.)  
 Young, Howard O., Marion  
 Young, James J., Clinton  
 Young, James W., Des Moines  
 ★Young, Richard A., Clarion  
 Yugend, Sidney F., Indianola

Zablouil, Warren C., Preston  
 Zager, Lewis L., Waterloo  
 ★Zeilenga, Robert H., Orange City  
 Ziffren, Sidney E., Iowa City  
 Zimmerer, Edmund G., Des Moines  
 Zimmerman, George R., Iowa City  
 Zoekler, Samuel J., Des Moines  
 Zoller, Sherwood B., Fredericksburg  
 Zuercher, Arlo R., Cedar Rapids  
 Zukerman, Cecil M., Davenport

★ Military Service  
 \* Deceased  
 (L.M.) Life Member

## When You Make an Investment, You'd Like Your Money Used—

To produce a useful product

To promote the ideas and ideals that you believe in

## And You Want Assurance That It Will Be Returned to You With Interest

*Such an investment is available to you in the*

# EDUCATIONAL FUND of the IOWA STATE MEDICAL SOCIETY

For detailed information, address George H. Scanlon, M.D.,  
Dey Building, Iowa City



# FIFTY YEAR CLUB MEMBERS

June 15, 1953

Adams, Ernest M.....Central City  
 Agnew, Fred F.....Independence  
 Aldrich, J. Frank.....Decatur, Ill.  
 Barber, Oliver S.....Chicago, Ill.  
 Barbour, Howard W.....Mason City  
 Barton, Edwin G.....Ottumwa  
 Beatty, Edward D.....Mallard  
 Bell, Edward P.....Pleasantville  
 Bierring, Walter L.....Des Moines  
 Bigelow, Charles T.....LaGrange, Ill.  
 Binford, William S.....Davenport  
 Birney, Cleanthus E.....Estherville  
 Boice, Clyde A.....Washington  
 Boyer, Howard C.....Council Bluffs  
 Bullock, William E.....Lake Park  
 Cantwell, John D.....Davenport  
 Carson, Andros.....Des Moines  
 Carver, William F.....Fort Dodge  
 Chase, William B., Sr.....Des Moines  
 Chittum, John H.....Wapello  
 Chittum, Josiah M.....North Liberty  
 Clasen, Henry W.....Cedar Falls  
 Cole, Elmer J.....Woodbine  
 Crabb, George M.....Mason City  
 Cretzmeyer, Charles H.....Algona  
 Crew, Arthur E.....Marion  
 Dean, Frank W.....Council Bluffs  
 Dean, William F.....Osceola  
 Dennison, John C.....Bellevue  
 Donohoe, Anthony P.....Davenport  
 Downing, Leroy M.....Cedar Rapids  
 Dulin, Tarana J. G.....Iowa City  
 Field, George A.....Des Moines  
 Foley, Fred C.....Newell  
 Fowler, Charles C.....Lovilia  
 Franklin, George W.....Jefferson  
 Gardner, John R.....Lisbon  
 Gearhart, George W.....Springville  
 Gillmor, Benjamin F.....Red Oak  
 Givens, H. Frank.....West Bend  
 Gray, Henry A.....Keokuk  
 Griffin, Clark C.....Vinton  
 Griffin, John M.....Des Moines  
 Gutch, Thomas E.....Albia  
 Harkness, Gordon F.....Davenport  
 Harrington, Burton.....Cedar Rapids  
 Harris, Clinton E.....Grinnell  
 Heady, Conda C. C.....Bloomfield  
 Heald, Clarence L.....Sigourney  
 Heathman, Frank E.....Pocahontas  
 Heles, John B.....Dubuque  
 Henry, Clyde A.....Farson  
 Hollis, Edward L.....Marengo  
 Hull, Henry C.....Washington  
 Jackson, James M.....Jefferson  
 James, Peter E.....Audubon  
 Janse, Phillip V.....Algona  
 Jastram, Alfred H.....Remsen  
 Jenkins, George A.....Albia  
 Johnson, Albert P.....Sigourney  
 Johnson, George M.....Oberlin, Ohio  
 Jones, Louis H.....Wall Lake  
 Kauffman, William A.....Marshalltown  
 Kennedy, Elizabeth Smith.....Oelwein  
 Kerlin, Jared D.....Des Moines  
 Kern, Lester C.....Waverly  
 King, Oran W.....Des Moines  
 Kisor, Frank H.....Mechanicsville  
 Kuhl, Augustus B.....Davenport  
 Laugel, Ambrose M.....Breda

Lincoln, Simon E.....Des Moines  
 Lundvick, Arthur W.....Gowrie  
 McBurney, George F.....Belmond  
 McDowall, Gilbert T.....Gladbrook  
 McDowell, William O.....Grundy Center  
 McLaughlin, Charles W.....Washington  
 Mantz, Russell L.....Cedar Rapids  
 Marble, Pearl L.....Liscomb  
 Mason, Stella M.....Mason City  
 Meyers, Frank W.....Dubuque  
 Mills, Frank W.....Ottumwa  
 Minassian, Harootune A.....Des Moines  
 Morris, Zenella E. N.....Stockport  
 Morrison, Wesley J.....Cedar Rapids  
 Morse, Charles H.....Eagle Grove  
 Mott, William H.....Farmington  
 Murchison, Kenneth.....Sidney  
 Murray, Frederick G.....Cedar Rapids  
 Neal, Emma J.....Cedar Rapids  
 Niblock, George F.....Denver, Colo.  
 Nicoll, David T.....Mitchellville  
 Norton, Alva C.....Rockwell City  
 Oggel, Herman D.....Maurice  
 Pace, Arthur A.....Toledo  
 Pagelsen, Otto H.....Pharr, Texas  
 Patterson, John N.....Burlington  
 Peck, Raymond E.....Davenport  
 Phillips, Albin B.....Clear Lake  
 Quire, Frank E.....Lynnville  
 Rambo, David T.....Ottumwa  
 Raw, Elmer J.....Pierson  
 Richardson, Leon F.....Collins  
 Rinker, George E.....Oto  
 Robb, James B.....Chariton  
 Robinson, Robert E.....Waverly  
 Rogers, Claude B.....Earlville  
 Roost, Frederick H.....Sioux City  
 Ruml, Wentzle.....Cedar Rapids  
 Sams, Joseph H.....Clarion  
 Sanders, William E.....Pasadena, Calif.  
 Sawyer, Prince E.....Sioux City  
 Scott, Sophie H.....Des Moines  
 Sellards, Joseph W.....Clarinda  
 Shelton, Charles D.....Bloomfield  
 Sinning, Augustus.....Iowa City  
 Smith, John E.....Clarence  
 Spain, Robert T.....Conrad  
 Steindler, Arthur.....Iowa City  
 Sternberg, Walter A.....Mount Pleasant  
 Stinson, Alice C.....Estherville  
 Stuart, Percy E.....Nashua  
 Thomas, William H.....McGregor  
 Throckmorton, R. Fred.....Des Moines  
 Tinley, Mary L.....Council Bluffs  
 Tinley, Mathew A.....Council Bluffs  
 Van Epps, Clarence E.....Iowa City  
 Walker, Harry L.....Cedar Rapids  
 Walliker, Wilbur M.....Clinton  
 Walsh, Thomas N.....Hawkeye  
 Walston, Edwin B.....Des Moines  
 Weir, Edward C.....Council Bluffs  
 Wells, Fred L.....Des Moines  
 Westenberger, Joseph C.....St. Ansgar  
 Weston, Robert A.....Des Moines  
 Whitehill, Nelson M.....Boone  
 Whitley, Ralph L.....Osage  
 Whitmire, William L.....Sumner  
 Woodbridge, James W.....Madera, Calif.  
 Wray, Clarence M.....Iowa Falls  
 Wright, Walter N.....Rose Hill  
 Young, Ernest R.....Dubuque  
 Young, Henry C.....Bloomfield

# COUNTY MEDICAL SOCIETY OFFICERS

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	L. H. Ahrens, Fontanelle.....	A. J. Gantz, Greenfield.....	A. S. Bowers, Orient.....
Adams.....	A. W. Brunk, Prescott.....	J. C. Nolan, Corning.....	A. W. Brunk, Prescott.....
Allamakee.....	M. F. Kiesau, Postville.....	R. R. Jeffries, Waukon.....	C. R. Reminger, Waukon.....
Appanoose.....	C. F. Brummitt, Centerville.....	A. S. Owca, Centerville.....	E. A. Larsen, Centerville.....
Audubon.....	R. H. Payne, Exira.....	A. B. Cloud, Audubon.....	L. E. Jensen, Audubon.....
Benton.....	L. W. Krontz, Vinton.....	N. C. Knosp, Belle Plaine.....	N. C. Knosp, Belle Plaine.....
Black Hawk.....	F. H. Reuling, Waterloo.....	R. G. Randall, Waterloo.....	Craig D. Elysson, Waterloo.....
Boone.....	R. S. Shane, Pilot Mound.....	Don Michaelson, Boone.....	
Bremer.....	R. E. Shaw, Waverly.....	R. P. Hardwig, Waverly.....	F. R. Sparks, Waverly.....
Buchanan.....	J. W. Barrett, Jr., Independence.....	J. F. Loeck, Independence.....	J. F. Loeck, Independence.....
Buena Vista.....	J. A. Cornish, Storm Lake.....	T. E. Shea, Storm Lake.....	H. E. Farnsworth, Storm Lake.....
Butler.....	M. D. Enna, Dumont.....	F. F. McKean, Allison.....	F. A. Rolfs, Aplington.....
Calhoun.....	R. G. Klockslem, Rockwell City.....	W. Ashton McCrary, Lake City.....	W. W. Weber, Pomeroy.....
Carroll.....	P. L. Pascoe, Carroll.....	J. M. Tierney, Carroll.....	J. R. Martin, Carroll.....
Cass.....	J. F. Moriarty, Atlantic.....	D. E. Wilcox, Atlantic.....	Ralph Moe, Griswold.....
Cedar.....	H. E. O'Neal, Tipton.....	O. E. Kruse, Tipton.....	P. M. Hoffman, Tipton.....
Cerro Gordo.....	C. W. Thomas, Mason City.....	J. E. Christopherson, Mason City.....	L. R. Woodward, Mason City.....
Cherokee.....	D. C. Koser, Cherokee.....	J. B. Blair, Cherokee.....	C. E. Broderick, Cherokee.....
Chickasaw.....	A. L. Murphey, Fredericksburg.....	J. H. Ahrens, New Hampton.....	M. J. McGrane, New Hampton.....
Clarke.....	C. R. Harken, Osceola.....	H. N. Boden, Osceola.....	H. E. Siroy, Osceola.....
Clay.....	G. F. Fieselman, Spencer.....	C. C. Jones, Spencer.....	C. C. Jones, Spencer.....
Clayton.....	T. W. Lichter, Edgewood.....	A. R. Powell, Elkader.....	P. R. V. Hommel, Elkader.....
Clinton.....	R. E. Dwyer, Clinton.....	D. F. Mirick, Clinton.....	R. F. Luse, Clinton.....
Crawford.....	M. U. Broers, Schleswig.....	R. M. Johnson, Dennison.....	R. M. Johnson, Dennison.....
Dallas-Guthrie.....	C. A. Nicoll, Pandora.....	W. C. Wildberger, Perry.....	C. A. Nicoll, Pandora.....
			A. M. Cochran, Adel.....
Davis.....	E. O. Gilfillan, Bloomfield.....	W. D. Haufe, Bloomfield.....	G. W. Gilfillan, Bloomfield.....
Decatur.....	G. W. Swanson, Lamoni.....	W. N. Doss, Leon.....	W. N. Doss, Leon.....
Delaware.....	R. E. Clark, Manchester.....	J. E. Tyrrell, Manchester.....	J. W. Willett, Manchester.....
Des Moines.....	J. F. Sulzbach, Burlington.....	W. C. Friday, Burlington.....	F. G. Ober, Burlington.....
Dickinson.....	J. J. Buchanan, Milford.....	R. F. Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park.....
Dubuque.....	L. A. Faber, Dubuque.....	P. J. Laube, Dubuque.....	D. F. Ward, Dubuque.....
Emmet.....	M. T. Morton, Estherville.....	E. K. Vaubel, Estherville.....	C. S. Kirkegaard, Estherville.....
Fayette.....	L. W. Ward, Oelwein.....	R. S. Jaggard, Oelwein.....	A. F. Grandinetti, Oelwein.....
Floyd.....	W. C. Baltzell, Charles City.....	E. V. Ayers, Charles City.....	E. J. Goen, Charles City.....
Franklin.....	W. L. Randall, Hampton.....	Dorothy Heuerman, Coulter.....	W. L. Randall, Hampton.....
Fremont.....	R. Lovelady, Sidney.....		R. Lovelady, Sidney.....
Greene.....	E. D. Thompson, Jefferson.....	G. F. Canady, Jefferson.....	M. H. Brinker, Jefferson.....
Grundy.....	H. V. Kahler, Reinbeck.....	W. K. Kienzie, Wellsburg.....	E. A. Reedholm, Grundy Center.....
Hamilton.....	R. A. Patterson, Webster City.....	W. B. McGahey, Webster City.....	B. F. Howar, Webster City.....
Hancock-Winnebago.....	L. W. Eller, Kanawa.....	K. J. Kroack, Buffalo Center.....	T. J. Irish, Forest City.....
Hardin.....	P. F. Tempel, Steamboat Rock.....	F. N. Cole, Iowa Falls.....	L. F. Parker, Iowa Falls.....
Harrison.....	Hans Hansen, Logan.....	F. X. Tamisea, Missouri Valley.....	A. C. Bergstrom, Missouri Valley.....
Henry.....	K. P. Beebe, Mt. Pleasant.....	R. B. Widmer, Winfield.....	J. R. Beebe, Mt. Pleasant.....
Howard.....	P. A. Nierling, Cresco.....	D. O. Maland, Cresco.....	P. A. Nierling, Cresco.....
Humboldt.....	A. S. Arent, Humboldt.....	A. E. Jensen, Humboldt.....	I. T. Schultz, Humboldt.....
Ida.....	E. H. Heilman, Ida Grove.....	J. B. Dressler, Ida Grove.....	M. W. Grubb, Galva.....
Iowa.....	L. A. Miller, North English.....	I. J. Sinn, Williamsburg.....	C. F. Watts, Marengo.....
Jackson.....	O. L. Frank, Maquoketa.....	J. J. Tilton, Bellevue.....	F. J. Swift, Maquoketa.....
Jasper.....	L. H. Koelling, Newton.....	L. D. Norris, Newton.....	J. W. Ferguson, Newton.....
Jefferson.....	Ludwig Gittler, Fairfield.....	Frank H. McClurg, Fairfield.....	R. A. McGuire, Fairfield.....
Johnson.....	A. E. Braley, Iowa City.....	J. S. Greenleaf, Iowa City.....	G. C. Albright, Iowa City.....
Jones.....	C. R. Smith, Wyoming.....	R. W. Myers, Monticello.....	T. M. Redmond, Anamosa.....
Keokuk.....	E. R. Gann, Sigourney.....	A. M. Harwood, Sigourney.....	D. L. Grothaus, Delta.....
Kossuth.....	L. O. Snook, Wesley.....	J. M. Schutter, Algona.....	M. G. Bourne, Algona.....
Lee.....	F. L. Steffey, Keokuk.....	Sebastian Amberry, Keokuk.....	L. C. Pumphrey, Keokuk.....
			F. L. Feightner, Fort Madison.....
Linn.....	R. Y. Netolicky, Cedar Rapids.....	E. L. Lindley, Cedar Rapids.....	
Louisia.....	E. S. Groben, Columbus Jct.....	J. H. Chittum, Wapello.....	J. H. Chittum, Wapello.....
Lucas.....	H. D. Jarvis, Chariton.....	R. E. Anderson, Chariton.....	R. E. Anderson, Chariton.....
Lyon.....	H. H. Gessford, George.....	S. H. Cook, Rock Rapids.....	S. H. Cook, Rock Rapids.....
Madison.....	R. W. Carson, Winterset.....	J. E. Evans, Winterset.....	C. B. Hickenlooper, Winterset.....
Mahaska.....	E. B. Wilcox, Oskaloosa.....	G. S. Atkinson, Oskaloosa.....	E. B. Wilcox, Oskaloosa.....
Marion.....	R. B. May, Knoxville.....	J. W. Doles, Knoxville.....	H. L. Bridgeman, Knoxville.....
Marshall.....	R. M. Wolfe, Marshalltown.....	H. E. Sauer, Marshalltown.....	R. C. Carpenter, Marshalltown.....
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	W. A. DeYoung, Glenwood.....
Mitchell.....	W. E. Owen, St. Ansgar.....	R. H. Huber, Osage.....	J. O. Eiel, Osage.....
Monona.....	J. L. Garred, Whiting.....	P. L. Wolpert, Onawa.....	C. W. Young, Onawa.....
Monroe.....	R. A. Smith, Albia.....	H. J. Richter, Albia.....	H. J. Richter, Albia.....
Montgomery.....	Oscar Alden, Red Oak.....	S. R. Smith, Red Oak.....	E. L. Croxdale, Villisca.....
Muscatine.....	R. W. Asthalter, Muscatine.....	L. H. Whitmer, Muscatine.....	C. P. Phillips, Muscatine.....
O'Brien.....	A. D. Blendeman, Paullina.....	W. S. Balkema, Sheldon.....	T. D. Kas, Sutherland.....
Osceola.....	E. S. Aeilts, Sibley.....	F. M. Rizzo, Sibley.....	F. M. Rizzo, Sibley.....
Page.....	G. H. Powers, Shenandoah.....	S. T. Ramsdell, Clarinda.....	C. H. Flynn, Clarinda.....
Palo Alto.....	R. D. Workman, Ruthven.....	C. C. Moore, Emmetsburg.....	H. L. Brereton, Emmetsburg.....
Plymouth.....	R. J. Fisch, LeMars.....	L. C. O'Toole, Le Mars.....	H. L. Vander Stoep, Le Mars.....
Pocahontas.....	W. F. Brinkman, Pocahontas.....	C. L. Jones, Gilmore City.....	C. L. Jones, Gilmore City.....
Polk.....	F. M. Burgeson, Des Moines.....	F. C. Coleman, Des Moines.....	M. T. Bates, Des Moines.....
Pottawattamie.....	H. W. Mathiasen, Council Bluffs.....	A. M. Pedersen, Council Bluffs.....	C. V. Edwards, Council Bluffs.....
Poweshiek.....	E. S. Korfmacher, Grinnell.....	L. C. Hickerson, Brooklyn.....	S. D. Porter, Grinnell.....
Ringgold.....	E. J. Watson, Diagonal.....	J. W. Hill, Mt. Ayr.....	C. J. Watson, Diagonal.....
Sac.....	J. H. Stafford, Sac City.....	L. D. Amick, Sac City.....	C. E. Lierman, Lake View.....
Scott.....	J. F. Bishop, Davenport.....	A. B. Hendricks, Davenport.....	P. A. White, Davenport.....
Shelby.....	J. H. Spearing, Harlan.....	E. J. Vosika, Shelby.....	R. E. Donlin, Harlan.....
Sioux.....	M. O. Larson, Hawarden.....	C. B. Murphy, Alton.....	William Doornink, Orange City.....
Story.....	G. E. Montgomery, Ames.....	W. B. Armstrong, Ames.....	J. D. Conner, Nevada.....
Tama.....	C. W. Maplethorpe, Jr., Toledo.....	A. J. Havlik, Tama.....	A. J. Havlik, Tama.....
Taylor.....	R. W. Boulden, Lenox.....	H. C. Moore, Clearfield.....	G. W. Rimel, Bedford.....
Union.....	J. L. Hoyt, Creston.....	H. J. Peggs, Creston.....	L. A. Coffin, Farmington.....
Van Buren.....	R. E. Olsen, Milton.....	J. T. Worrell, Keosauqua.....	C. A. Henry, Farson.....
Wapello.....	D. E. Emanuel, Ottumwa.....	E. B. Hoeven, Ottumwa.....	C. A. Trueblood, Indianola.....
Warren.....	C. A. Trueblood, Indianola.....	R. C. McGeehon, Indianola.....	M. L. McCreehy, Washington.....
Washington.....	G. J. Nemmers, Washington.....	W. S. Kyle, Washington.....	J. H. McCall, Allerton.....
Wayne.....	L. B. Calbreath, Humeston.....	C. F. Brubaker, Corydon.....	C. J. Baker, Fort Dodge.....
Webster.....	F. S. Larsen, Fort Dodge.....	J. R. Kersten, Fort Dodge.....	L. C. Kuhn, Decorah.....
Winnebuck.....	L. E. Larson, Decorah.....	A. F. Fritchen, Decorah.....	D. B. Blume, Sioux City.....
Woodbury.....	R. C. Mugaen, Sioux City.....	F. W. Osineup, Sioux City.....	R. L. Olson, Northwood.....
Worth.....	G. S. Westly, Manly.....	B. H. Osten, Northwood.....	S. P. Leinbach, Belmond.....
Wright.....	R. C. Eaton, Clarion.....	J. R. Christensen, Eagle Grove.....	



# The JOURNAL

of the

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, AUGUST, 1953

No. 8

### FRACTURES AND CASTS

JAMES K. STACK, M.D.\*  
CHICAGO, ILLINOIS

IN THE MIND of the layman, the appropriate treatment of a broken bone is a plaster of paris cast enveloping the injured limb and remaining in place until the bone has healed. Fractures and casts make up a couplet as familiar and popular as ham and eggs, Romeo and Juliet, and many other such two-somes. Yet, today, when the doctor is called upon to treat a fracture, he must decide if immobilization in a cast is the proper treatment for that particular fracture, and, if so, what the function of the cast should be, how much of the extremity it should include and how long it should remain in place. It is well to remember that, important as the x-ray is in the diagnosis and management of fractures, it never tells the whole story. When we think of the violence which is necessary to break a bone—the toughest of body tissues—we certainly should think of what that same violence must do to the contiguous tissues which are not nearly so strong as bone, such as skin, muscle, fascia, ligament, joint capsule, cartilage, nerve, blood vessel, etc. We must think also of the immediate and residual—the obvious and the subtle—effect of this reaction on all of the tissues about the fracture site. Will the contemplated cast-immobilization be good for one injured tissue, namely, the bone, and harmful to the other tissues, particularly muscle, joint capsule and ligament? What effect will the cast have on the uninjured tissues of the same limb which will necessarily have to be confined if the fracture is securely encased in plaster? Consider, for instance, the quadriceps muscle in an immobilization of the tibia; the deltoid muscle, the tendinous cuff and the subacromial bursa in an immobilization of the elbow.

Certainly there are fractures in which rigid and prolonged immobilization well above and below the injury must be used, as in the case of the mid-tibial shaft, and, if one chooses the closed method

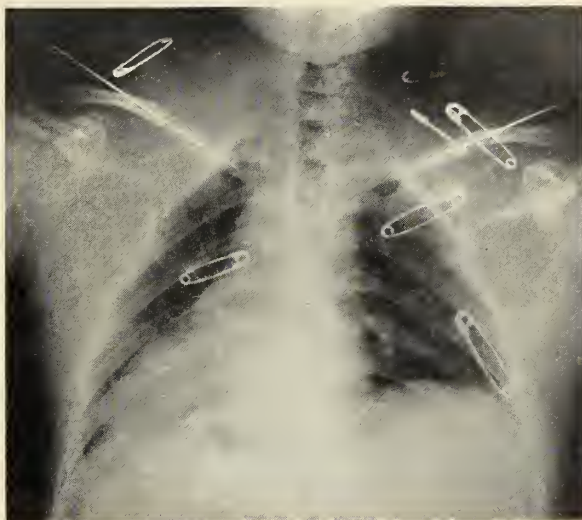


Figure 1. Bilateral fracture of the clavicle treated by intramedullary fixation. An instance in which no cast could possibly be as effective. The healing period for this patient was a relatively comfortable one compared with what it might have been with the use of any external fixation device.

of treatment, there is no way to avoid the undesirable side reactions mentioned. The instances are many, however, in which the bad results of prolonged immobilization of uninvolved tissues are unnecessary, and they can be foreseen and prevented by the use of other treatment modalities such as pressure dressings, elevation, and simple, home, physical-therapy methods during the healing period. There are many fractures, in which, when one treats them properly, he can get all of the injured tissues to heal without letting local uninjured tissues deteriorate, and one need not devote a certain portion of time to the healing of the bone and another portion of time to the rehabilitation of the various soft tissues.

Let us tour the skeleton and pick out common instances in which excellent functional results can be obtained following fracture without the use of plaster immobilization. In the upper extremities, the fracture of the clavicle is perhaps the most common fracture encountered in young, active individuals. It is established that the anatomic and functional results need not necessarily coincide; if

\* Associate Professor of Bone and Joint Surgery, Northwestern University Medical School; Attending Orthopedic Surgeon, Passavant Memorial Hospital and Cook County Hospital, Chicago, Illinois.



Figure 2. This comminuted impacted fracture of the surgical neck of the humerus illustrates one of the more common sites of the misuse of a plaster cast, particularly the hanging cast. This fracture should not be interfered with, and the shoulder should not be immobilized beyond the first few days, when the patient himself will restrict activity because of pain. In this type of fracture, a perfect functional result may be obtained in spite of the permanent anatomic alteration.

one disregards the cosmetic effect, one can have a perfectly functioning shoulder with over-riding and angulation of the clavicular fragments. The excision of the lateral and medial portions of the clavicle does not affect the function of the upper extremity, and, in cases where tumor has made necessary that the entire clavicle be removed, the function of the arm is good, although the total shoulder width may be lessened and a slight forward droop may be present. The intramedullary fixation of this bone is, at the present time, the best way to insure a perfect anatomic and functional result if the patient will accept the residual incisional scar over the area. Plaster of paris is seldom necessary in the successful reduction of this fracture, for it can be maintained by bed rest, by figure-of-eight dressings of stockinette or other soft material, and by the intramedullary fixation method. In fractures of the clavicle involving the outer third, no treatment other than a few days of sling immobilization is necessary, after which active motion may be instituted. This is also true in fractures of the acromion process, the glenoid rim, the neck of the scapula, and the various comminutions that occur through the body of the scapula.

Moving down a notch, we come to fractures of the greater tuberosity of the humerus; these occur in about 20 per cent of those who sustain initial dislocations of the glenohumeral joint following substantial violence. The reduction of the dislocation will, in most instances, bring the head of the humerus back into proper relationship to the displaced fragment, and this relationship will remain, even though early motion is instituted. In the event that the tuberosity shows a tendency to be

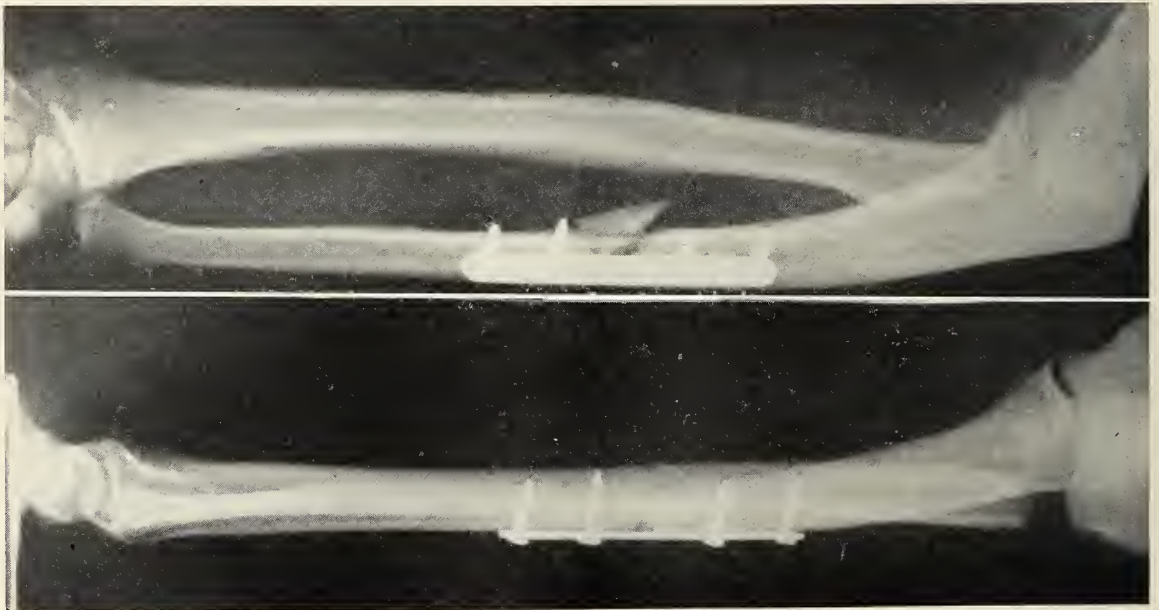


Figure 3. Note the absence of the radial head which was removed because of severe comminution. The firm plating of the ulna done through an extension of the same incision makes plaster immobilization unnecessary. If the elbow and wrist had been immobilized in the treatment of the ulnar fracture, the convalescence would have been greatly prolonged.



pulled up beneath the acromion process, it is far better to make a small incision over the area and fasten it down, rather than to put the arm in a position of abduction and external rotation, holding it there with a plaster of paris shoulder spica until healing is complete.

Fractures of the surgical neck of the humerus are about as common in the senescent and senile as fractures of the hip, and they can be treated with complete disregard for the anatomic relationship of the fragments. Fractures in the region of the surgical neck of the humerus give us the outstanding example of the fact that useful function can be obtained in spite of a carelessness about anatomic relationships which horrifies the x-ray department. There is no need to immobilize these fractures, whether they are impacted or not, and early movement should be started as soon as the initial pain has subsided. The plaster immobilization, with the arm at the side, in a fracture of this kind is certain to produce extreme loss of motion and disability. This is perhaps the most common fracture of the upper extremities in which the so-called "hanging cast" is greatly misused. The hanging cast is a method of traction, and there is no need for traction in the fracture under discussion. The hanging arm is far more desirable and will produce much less disabling sequelae than the hanging cast.

Moving down to the region of the elbow, one should note that fractures of the olecranon process which are transverse and without disordered comminution need not be rigidly immobilized until healing is complete. The situation here is very similar to that in the patella. We have the broad insertion of the triceps tendon extending around and distal to the fracture. This will act as an effective splint and permit early motion, particularly in the range from 90 to 180 degrees. In the head of



Figure 5. The non-union of this fracture of the humerus resulted from the application of a hanging cast which was too heavy and distracted the fragments.

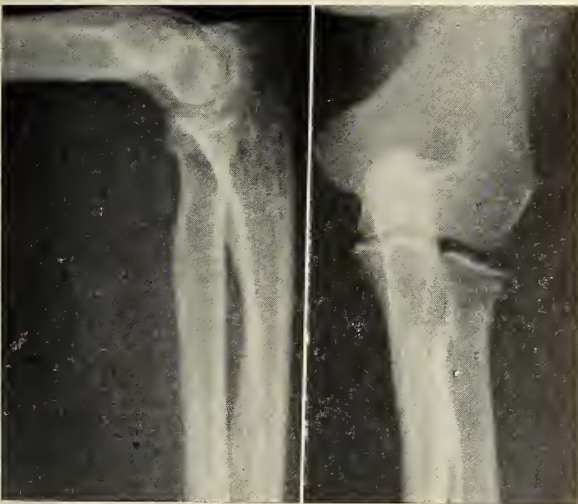


Figure 4. Such compressions of the radial head are treated best without cast immobilization. When first seen in the emergency room, the aspiration of the bloody synovial fluid after novocaine infiltration will relieve the patient's pain and permit early motion of this joint.

the radius, we frequently have longitudinal fissure fractures and transverse fractures of the radial neck with minimal tilting or compression of one side of the radial head, so that only the slightest disturbance in the relationship between the radius and the capitellum exists. These fractures need not be immobilized and are best treated by inserting an intramuscular type needle into the elbow joint from the lateral approach, aspirating the eight or ten cc's. of blood which the joint contains and instilling five cc's. of novocaine. This technique will produce a surprising relief from pain and make possible early mobilization of the joint in both flexion and extension, and supination and pronation. Many of the impacted fractures of the distal end of the radius—the Colles type in older people—should not be immobilized, particularly in heavy casts, because of the danger of stiffness in the fingers, and pain and limitation of motion in the shoulder. A light splint for a week or ten days, or until the acute pain subsides, is all that is necessary, after which early motion can be started.

Turning to the lower extremities, one finds that fissures in the floor and the rim of the acetabulum need not be immobilized, and that those fractures representing minimal avulsions of the greater and



lesser trochanters may be subjected to early active motion. The hip spica usually has no place in the management of fractures of the femoral neck, intertrochanteric region and femoral shaft, for it has been definitely established that open reduction and internal fixation is the treatment of choice

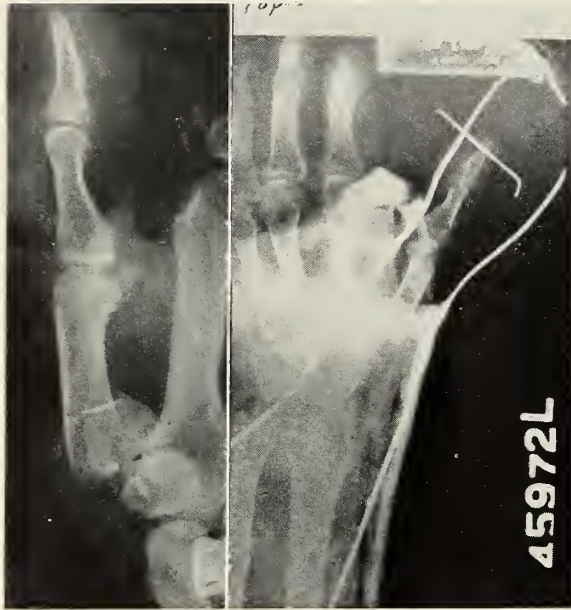


Figure 6. Left: A Bennett type fracture dislocation of the proximal end of the first metacarpal bone. This fracture exemplifies those which require cast immobilization, but of a special kind. Right: Skeletal traction through the distal phalanx of the thumb applied to a wire loop incorporated in the plaster cast. Note that the distal edge of the cast does not interfere with the free function of the second, third, fourth and fifth metacarpophalangeal joints.

even in the aged and infirm. Comparative statistics show that the aged and infirm patient will certainly die of intercurrent ills if permitted to remain immobile, encased in a hip spica cast. This type of cast has no place in the management of a fracture of the femoral shaft, for it cannot overcome the angulation effect of the strong adductor muscle groups. The intramedullary nail, when properly inserted in a suitable case, immobilizes the fracture and does away with the undesirable effects on the other tissues and joints of the extremities. In the patella, we frequently see longitudinal and stellate fractures with little or no disturbance of the articular surface of the bone. They need not be immobilized, and even the transverse fracture that is not displaced more than a few millimeters can begin early motion, because the retinaculum of the knee is intact. Here, as in the case of the olecranon, it is best to confine the early motion to the range of 90 to 180 degrees, for this will put no serious strain on the fracture line. The minimal depressions of the lateral tibial plateau are common, and these patients are best treated by early aspiration of the blood that is within the joint (and this should also be done in the case of patellar fractures), the application of a pressure dressing,

the early use of quadriceps setting exercises and early motion of the knee. No fracture of the fibula, i.e., proximal to the distal fourth, need be immobilized in plaster, for it is only the lower portion of this bone which has any function other than that of serving as a point of muscle attachment.

One of the most frequent misuses of the plaster cast is in its application to any one of the various fractures which occur in the spine. The cast has no place in fractures of the spinous processes, fractures of the transverse processes, minimal compressions of the dorsal and lumbar bodies, fractures involving the anterior, superior edges of the vertebral bodies, and the multiple, minimal, sometimes inverse fractures over the vertebral bodies secondary to the osteoporosis seen so often in senescence and senility.

In the pelvis, there is no occasion to use plaster in the management of fractures of the sacrum and coccyx, for these bones play no role in the motions of the spine. Fractures of the various parts of the innominate bone cannot be immobilized by a plaster cast, and the cast can only make it more difficult for the patient to move, and, in this way, might achieve the end of making him more comfortable.

The doctor's decision, then, is not dissimilar to the decision of a judge in criminal court before



Figure 7. Fractures of the carpal navicular bone also require a special form of cast, namely, a wrist-gauntlet type which includes the thumb, but leaves free the remaining metacarpophalangeal joints.



whom stands a defendant convicted on three counts: drunken driving, manslaughter and disorderly conduct. Suppose you were in the position of the defendant, would you not prefer the judge to pronounce a sentence which would run concurrently rather than consecutively? Certainly you would!

## WHAT CONSTITUTES A COMPENSATION CASE\*

E. H. CARLETON, M.D.\*\*

EAST CHICAGO, INDIANA

WEBSTER'S DICTIONARY defines *compensation* as "That which compensates for loss or privation; recompense." From the biological standpoint, Dorland's Medical Dictionary defines *compensation* as "The counterbalancing of any defect of structure or function." As we develop the discussion of "what constitutes a compensation case," we may see that either one or both of these definitions have application. We may see also that there is something missing from both of these definitions when we try to describe the various elements which tend to define a workman's compensation case. My objective is to attempt to demonstrate to you how that "missing something" should be supplied.

"Before workmen's compensation laws were enacted, an injured worker sued his employer for damages, and he had to prove that the injury was due to negligence by the employer. The court remedy was slow, costly and uncertain."<sup>1</sup>

With the rapid growth of industry since the nineteenth century, industrial injuries greatly increased. The beginning of the twentieth century found many states in the union ruling that employees did not assume the risk of their employment, and after 1911, workmen's compensation laws were put into effect at one time or another in all states.

The risk of economic loss through personal injury in the course of employment is now borne by industry, is considered part of the cost of production and is incorporated into the price of the product.

Workmen's compensation laws of today are designed to give an injured worker prompt medical care, a reasonable part of his wages and provision for his dependents in case of his death.

In these times there is no longer any question about the adoption of a workmen's compensation law by a state; the question concerns only the extent of the protection, the size of employee benefits, how it is administered and whether or not the protection should be provided through private insurance carriers or through state funds.

Compensation laws may be either compulsory or elective. Compensation law does not cover all

types of employment. Every state now has a workmen's compensation law, and in addition, there are federal workmen's compensation laws. It is estimated that there are approximately 45,000,000 workers protected by workmen's compensation in the United States. There has been a tendency in recent years to bring occupational disease under workmen's compensation laws and to liberalize provisions for such conditions. There are many other interesting facts concerning compensation law in the United States and Canada which we need not go into at this time because they do not bear directly on our subject.

Most of the compensation laws in existence today are in agreement as to the principle involved; however, many of them differ in two important respects. No two laws provide for exactly the same benefits, and no two laws provide a similar clear basis for the description or definition of a compensable injury or disease, or, in other words, a definition of "what constitutes a compensation case."

The nearest thing to a definition of a compensation case appears in many of the state laws in the form of a broad statement which may be written somewhat as follows: "Any condition which arises out of or is directly due to the nature of the employment"—is considered compensable. For want of a better illustration, I am going to describe a compensation case as a stool with three legs. One leg represents the legal obligations of the employer as stated by law. The second leg is the social and economic obligations of the employer, which may be partly stated or implied by law and may be partly decided by industrial boards or similar quasi-judicial bodies. The third leg represents the self-imposed moral obligation of the employer in respect to his comprehension of the legal aspect of the compensation laws, on the one hand, and the degree to which he exercises the social and economic obligations of these laws, on the other.

It is no secret that in some states it is the practice of employers to take all the advantage they can of the broad and non-specific definition of liability. In my opinion, there are probably two reasons for this. One is that some employers, lawyers and even doctors are still thinking the way they did before compensation laws were put into effect, when negligence on the part of the employer had to be proved and the establishment of who was at fault in the accident was an important factor in deciding whether or not the injured employee would recover benefits. This attitude is entirely unrealistic in this day and age because the modern doctrine of occupational risk passes on the economic loss to the cost of production and the cost of the product. In my opinion, a second reason for this situation may be the overly-zealous effort of the employer to maintain a good statistical record in comparison with the injury or "safety" records of competitors. The main cause of the difficulty in understanding what constitutes a compensation case is the poor understanding we

\* Delivered before the Polk County Medical Society, Des Moines, Iowa, March 18, 1953.

\*\* General Medical Director, Inland Steel Company.

have of this third area or third leg of the stool which has been described as the moral obligation of the employer. The employer can make this problem relatively easy, or he can make it very difficult for himself, depending on his point of view. The principal use of this third leg of the stool is to eliminate the concealment of fault for industrial injuries or illness, to provide for study and prevention of injuries or illnesses, and to give the employer an area in which he can move freely to expedite just and reasonable claims.

At this point you may fairly say that all of this sounds good, but how does one acquire this lofty and desirable attitude toward industrial injuries and illnesses so that the best interests of the employee and the best interests of the employer are properly served? I can only tell you how I decide whether or not an illness or injury is a compensation case as follows:

1. Each case must be considered on an individual basis. No two cases are exactly alike as to cause or result.

2. The employee must have been injured while engaged in activities required by his form of work or the environment of his work. This would include:

- a. Accidental injury on company property going to and coming from the place of work.

- b. Injury resulting from "horseplay" or negligence of other workers in which the employee was an innocent victim.

3. There should be a reasonably certain relationship between the "how," "where" and "when" of the mechanism of the injury or exposure and the diagnostic findings in the case.

4. The differential diagnosis must be sufficiently thorough and exact so that all possible primary or contributory causes other than the alleged injury may be identified or eliminated.

The most important of the rules I have just stated is number three, the "how," "where" and "when" of the alleged injury or exposure. The next most important is the differential diagnosis, point number four.

In my experience, most of the difficulty concerning a decision as to whether or not a case is entitled to compensation is due to the fact that the examining physician does not inquire sufficiently into the details of the alleged injury. He does not question the patient sufficiently, or he may not take the trouble to corroborate the story given by the patient. Frequently it is necessary to get additional information from witnesses to the alleged accident because sometimes the patient may not clearly recall what really happened. Likewise, in the examination procedure it is not wise to depend on the absence of symptoms or a lack of outward signs to reassure one that some occult injury has not taken place. If there is a reasonable chance that injury could have occurred because of the "how," "where" and "when" of the alleged injury, I prefer to use diagnostic procedures to insure that

the results are negative, even though such procedures may seem to be unnecessary. It has been my experience, as it has undoubtedly been the lot of other industrial physicians, to have some of my decisions questioned by other physicians in the community. To the best of my knowledge, there have been two reasons for this. Either I slipped up and did not follow my own rules, or the physician in the community made a hasty decision that he was dealing with a compensation case without benefit of adequate information as to "how," "where" and "when," or he may have made an inadequate examination of the patient. Situations like this, of course, lead to a great deal of friction in the community between industrial physicians and other physicians and are the commonest causes for contention before industrial boards.

We need more good ears to listen—and listen carefully—to the story told by the employee. Many of our problems stem from too little of listening and too much of jumping to conclusions. This applies to the private physician as well as to those of us in industrial work. I have seen the spirit of professional competition in the diagnosis of industrial injury cases carried far beyond the bounds of "good clean fun" to the point where confusion reigned, everybody suffered—most of all the disillusioned, unhappy employee. This state of affairs need not and should not be!

At this point it would be desirable for us to see how well my rules work in certain specific types of injuries or occupational disease, with examples from my experience. First, let us take an indirect inguinal hernia in a young, healthy, muscular male. The herniation was alleged to have occurred while the young man was standing beside a machine in the machine shop. There was no exertion involved. This was his regular work, and he had done it for several years. He was very active in strenuous sports and athletics outside his working hours. Preplacement examination at the time of hiring revealed no weakness of the inguinal rings. Examination after the alleged injury revealed pronounced relaxation of the inguinal ring and reduction of the hernia could be easily accomplished.

In my opinion, this should not be considered a compensation case because there was no reasonably certain relationship between the demands of the man's job and the physical findings. In contrast, we have a hernia in a man past middle age whose musculature is rather flabby and who alleged the hernia occurred when he stooped over with his legs spread apart to throw a ground type railroad switch. Upon examination an indirect inguinal hernia is found, with a tight, painful ring which resists reduction. In my opinion, this would be a compensation case because the man was doing his regular work, his body was in a position conducive to relaxation of the abdominal musculature, he was straining to throw the switch, he felt a painful rupture sensation at the time he



was throwing the switch, and upon examination the findings indicated a recently acquired hernia.

Now let us consider two cases of low back pain. The first one involves a man whose regular job is manual labor using a pick and shovel. He alleged that his back suddenly began to hurt while he was using a shovel. Detailed inquiry into exactly what happened revealed that the man was extremely warm and was working without a shirt. He was standing upright, cooling off, and stooped over to pick up the shovel, but did not actually touch the shovel handle. He was not working at that particular moment in any sense of the word, and it was at that moment that he felt a stabbing pain in his lower back which he claimed was an injury. Careful history revealed that the man had had attacks of low back pain or lumbago before. X-rays revealed a certain degree of arthritis of the spine. In my opinion, this would not be a compensation case. The other back case is that of a man doing the same kind of work who stooped over to pull a piece of pipe loose from a hole in the ground. He strained to pull the pipe upward when one foot slipped out from under him and he was thrown violently to one side, twisting his back. X-rays of this man's back revealed a certain degree of arthritis also, but the ruling point, it seems to me, was the "how," "where" and "when" of the mechanism of injury. In my opinion, this would be a compensation case. It could qualify either as a primary injury, or as an aggravation of a previously existing condition.

Let us consider heart failure on the job. One man was a machinist whose job required a limited amount of moving about in a shop, handling relatively light castings and tools. He had had hypertension and heart disease for several years and had been doing the same kind of work for all of that time. While stooping over to pick up a light casting, he suffered a heart attack and died. In my opinion this would not be a compensation case. In contrast, we could take the same individual and assume that instead of picking up a light casting, he became involved in an emergency situation. A fire, for example, broke out in the shop and this same man ran some distance to give an alarm, engaged in unusual strenuous activity in moving heavy equipment and joined in the effort to put out the fire. Immediately following this emergency, this man dropped dead. In my opinion, this would be a compensation case.

My next case concerns a claim of stannosis. The employee had been examined by his family physician and had been told that the shadows seen in the x-ray probably represent stannosis, a condition due to exposure to tin fumes—comparable to silicosis. This man operated a tractor in a tin mill and, therefore, alleged that he had been impaired by a compensable disease. In the first place, we knew immediately that there was not the kind of exposure necessary to cause the condition. In the second place, our interpretation of the x-rays in-

dicated tuberculosis. This was to some extent verified by a rather high sedimentation rate and a slight increase in afternoon temperature. We sent this employee to a chest specialist who made a diagnosis of moderately advanced tuberculosis. In our opinion, this was not a compensation case and our stand was supported by the subsequent cure in a sanatorium. On the other hand, take the case of a young man who came to work in good physical condition with a clear chest x-ray. His job was handling refractory brick which had a high silicon dioxide content. Following approximately two years' work, our own yearly x-rays revealed a fine nodulation in the lung field and a cloudiness in both upper thirds of the lungs. Although in our experience this development was unusual and unexpected because the exposure to silicon dioxide was not of a degree to cause silicosis, it was our opinion that we were dealing with a rare case of unusual susceptibility and we accepted it as a compensation case. The subsequent course of the patient to death from silico-tuberculosis within two years supported our decision.

The last example I shall give is that of a man who claimed lead intoxication. His job was in the electrical division and occasionally he was engaged in heating babbitt and pouring small bearings. This work was done in a proper enclosure with adequate ventilation, and it had been established by repeated tests done by our Occupational Hygiene Engineers that there were insufficient lead fumes in the atmosphere to affect anyone, even though he worked constantly at the babbitt pots. The diagnosis of lead intoxication had been made by the family physician on the basis of a lead line on the gums, a mild anemia, loss of weight and questionable blood smears. It happens that in our medical program we have a rather close follow-up on medical conditions which are being treated by outside physicians. We knew this particular man had been under treatment for lues for several months. We were of the opinion that this was not a compensation case because of the absence of reasonable exposure, but we took the precaution of having the man examined by a consultant, who advised us that the man was suffering from bismuth intoxication. The family physician who had been giving the man his bismuth shots was very much surprised when his case of lead intoxication turned out to be overtreatment with bismuth.

#### BIBLIOGRAPHY

1. Analysis of Provisions of Workmen's Compensation Laws and Discussion of Coverages. U. S. Chamber of Commerce Publications, January 1952 and Supplement January 1953.

#### NEW DOCUMENTARY FILM

Democracy in action is exemplified in a new motion picture film "A Citizen Participates," for it shows how a rural community can work together to get itself a doctor. Running time is 27 minutes. It can be secured on loan from Young American Films, Inc., 18 East 41st Street, New York City 17.



## AUTONOMIC NERVOUS SYSTEM: CLINICAL SIGNIFICANCE\*

LOUIS T. PALUMBO, M.D.\*\*  
DES MOINES

### Part I—Gross Anatomy

GREAT ADVANCES have been made in the past ten years in the knowledge of the anatomy, physiology, and clinical significance of the autonomic nervous system in the treatment of certain diseases and conditions. In order to understand the rationale of the present day surgery of this portion of the nervous system, it is paramount that one have a basic understanding of the anatomy and physiology.

The nervous system as a whole is usually divided into the central, peripheral, and autonomic divisions. The autonomic division, also called vegetative or involuntary, is a separate and extremely important portion. The autonomic system, as the name indicates, is automatic in action. It controls automatically all of the vital functions of the body which cannot be controlled by voluntary action. These activities are concerned with action of all glands of the body, which include, for example, all of the visceral, sweat, and sebaceous glands, all of the motor functions of organs or tissues containing smooth muscle, such as the muscle of the gastrointestinal tract, of the blood vessels, of the uterus, of the urinary system, and of the gallbladder. It also controls the function of the heart.

It is readily apparent from these facts that this portion of the nervous system has a widespread distribution throughout the body and that it influences many of the functions and actions of our body which are necessary for carrying out our daily activities, as well as maintaining life itself.

These activities which are vital to our existence are continued day in and day out, so long as we are healthy, without much thought or conscious recognition on our part. In other words, as we go along through our daily routine, we are not occupying our conscious minds with the volitional control of our heartbeat, blood pressure, pulse, temperature, digestion, respiration, renal activities, and other important functions. However, these normal activities may be influenced indirectly by reflex action through the peripheral and central nervous systems. These voluntary nerve pathways have an extensive communication by means of synapses with the autonomic nervous system, so that any external or internal stimulation of the somatic portions of the nervous system can by reflex action affect the functions and activities of any portion of the autonomic nervous system.

For example, a person may faint as a result of bad or shocking news. The information is transmitted to the brain via the acoustic nerve, which is a part of the somatic nervous system. The news creates a maximal impulse, which because of its nature results in an outflow to the various vital brain centers, which in turn by reflex arcs stimulate the vital pathways of portions of the autonomic nervous system. These impulses are transmitted to the heart, blood pressure regulating mechanism, adrenal glands, and vascular tree, thereby creating an abnormal reaction in these areas sufficient in scope to bring about a change in cardiac rate, lowering of blood pressure, excitement, emotional instability, and finally syncope. When these abnormal stimulations have ceased, the patient becomes conscious and regains stability and composure. The automatic vital functions of the body which have been stimulated by this chain of events have now returned to their normal action, restoring the person to normal equilibrium and emotional state. As one readily appreciates, this is a complex mechanism which can be disturbed in its function by many factors. Continued abnormal stimulation of these pathways may result in disturbed organic function, producing, in time, organic disease.

The above gives one an insight into the variety of problems which may arise in a human being as a result of disturbed action or function of the autonomic nervous system. To gain further understanding of the basic principles involved, one must have a concept of the basic anatomical pattern of this system.

The autonomic nervous system is divided into two parts: the sympathetic and the parasympathetic. The sympathetic portion is most frequently alluded to in medical and surgical conditions. However, the other division, too, has many important functions which today play an important part in the surgical role of the treatment of many conditions and diseases.

The sympathetic nervous system is composed of nerve fibers arising from the thoracolumbar portions of the spinal cord. However, it has communications with higher centers located in the brain stem. It is represented outside of the central nervous system by a ganglionated chain extending along the ventral aspects of both sides of the vertebral column from the base of the skull to the tip of the coccyx. At this point both chains end in a common ganglion known as the ganglion impar. This segmental chain is composed of ganglia and neurons which follow a definite pattern as to manner of origin synapse and distribution. This ganglionated chain is divided into three sections according to area of location. These sections are the cervical, thoracic, and lumbar. In the cervical, or neck region, the chain is composed of three groups, named the superior, middle, and inferior cervical ganglia. In the thoracic region, there is usually a ganglion for each vertebral segment, or a total of 12 on each side. In the lumbar region there are

\* Sponsored by the Veterans Administration with the approval of the Chief Medical Director. Statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

\*\* From the Department of Surgery, Veterans Administration Hospital, Des Moines, Iowa.



usually four on each side; however, this number many vary from one to eight.

A typical arrangement of these structures in the spinal cord, nerve root and ganglionated chain is shown in a diagram (Fig. 1). The nerves of the sympathetic division are composed of two parts: a preganglionic and a postganglionic neuron. A preganglionic neuron is a nerve trunk or fiber which has its cell bodies located in the intermediolateral cell column of the spinal cord. The nerve then passes out of the cord by way of the ventral nerve root to the place where it joins the common nerve trunk. It then leaves this nerve trunk by way of a communicating pathway, called a ramus. This short nerve pathway connects the main nerve trunk with the sympathetic chain. By means of these short pathways the pre- and postganglionic neurons reach and leave the sympathetic chain to their points of distribution. The preganglionic neuron then will synapse with the cell bodies of the postganglionic neuron in the ganglia of the sympathetic chain, usually at the same level of origin of the preganglionic neuron.

Generally speaking, in the sympathetic division of the autonomic nervous system, the preganglionic neurons are short and form all their synapses in the ganglionated sympathetic chain. Exceptions to this rule are in the greater, lesser, and least splanchnic nerves, which will be discussed later.

The postganglionic neuron is longer than the pre, and after it has left the sympathetic chain, it reaches its point of distribution, or the structures it supplies, by way of the vascular tree or by way of the common nerve trunks. Therefore, practically

all of the somatic nerves, such as the sciatic, ulnar, median, etc., carry or contain sympathetic fibers, too. However, many sympathetic nerves travel along the blood vessels to their final points of distribution.

The greater, lesser, and least splanchnic nerves do not follow the pattern as noted above. Their point of origin is from the 5th through the 12th thoracic levels of the spinal cord. These preganglionic neurons pass out of the cord and through the sympathetic chain without forming a synapse at this point as do the other preganglionic neurons of the sympathetic system. Instead, they continue to a group of preaortic ganglia, where they synapse with postganglionic neurons. The greater and part of the lesser splanchnic nerves synapse in the celiac (solar) plexus, and the lesser and least, in the superior and inferior mesenteric ganglia.

Therefore, it is generally stated that the preganglionic neurons of the sympathetic nervous system are short, except for the splanchnics, and the postganglionic neurons are long.

The sympathetic innervation to the structures of the head and neck arise from the first to the fifth thoracic levels of the cord ascending in the sympathetic trunk of the thoracic and cervical regions. The postganglionic synapse occurs in the superior, middle, or inferior cervical ganglia. The sympathetics of this area of the body pass by way of the major blood vessels and some of the cranial nerves to supply the smooth muscles of the eye, blood vessels of the neck, face, and brain, and of the sebaceous and sweat glands. These nerves are in communication with peripheral ganglia associated

## SPINAL CORD AND SYMPATHETIC PATHWAYS AT THE LUMBAR LEVEL

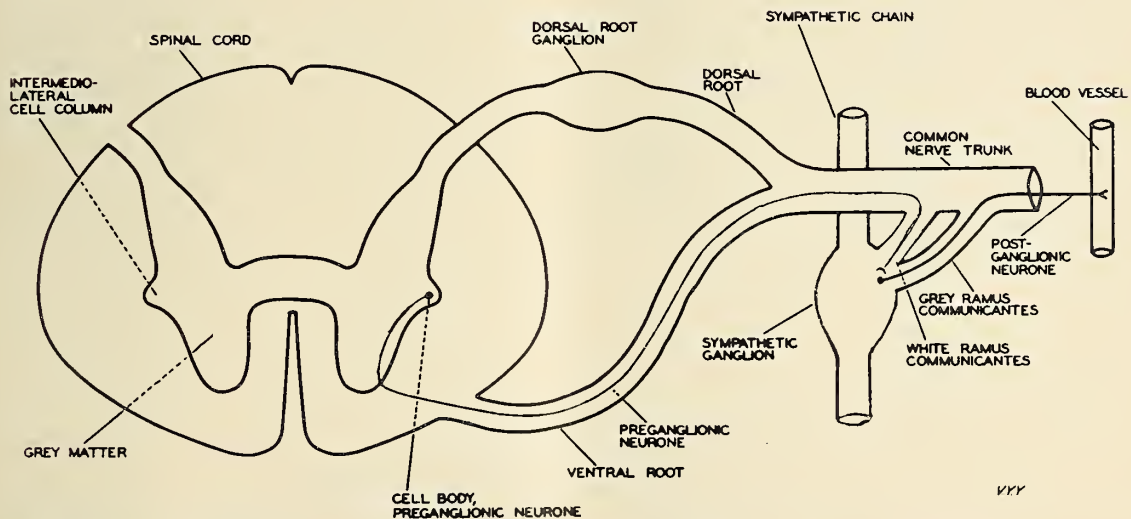


Fig. 1. Represents a typical arrangement and synapse of the neurons of the sympathetic portion of the autonomic nervous system.

with the parasympathetic system. The superior, middle, and inferior cervical ganglia give rise to a group of nerves to the heart known as the superior, middle, and inferior cardiac nerves. These fibers supply the heart muscle.

The inferior cervical ganglion is frequently fused with the first thoracic ganglion to form the stellate ganglion. The fibers passing through these two ganglia are responsible for the sympathetic nerve supply to the eye. Destruction of these fibers results in a Horner's syndrome. (This will be discussed in another section.)

The sympathetic innervation to the upper extremity in the majority of cases is derived mainly from the second and third thoracic levels of the spinal cord. The preganglionic neurons pass directly into the sympathetic chain, and the majority of these synapse with postganglionic neurons in the second dorsal or thoracic ganglia. These fibers then pass by way of the second and third intercostal nerves to the upper extremity. The majority of these postganglionic fibers reach the structures they supply by way of the arteries and somatic

nerves of the upper extremity. It has been recently shown that destruction or removal of the second thoracic ganglia will result in complete sympathetic denervation of the upper extremity in the majority of patients. It is important to note, however, that there are many variations in the origin, pathway, and distribution of this complex system. In this presentation, the normal and most frequent type of pattern is described.

The lower extremity receives its sympathetic supply by way of the large nerve trunks and arteries. The preganglionic neurons arise from the second, third, and fourth lumbar segments of the cord. The majority arise from the second level. These fibers synapse in the sympathetic chain at these levels, and most of the postganglionic fibers leave the sympathetic chain at the fourth lumbar ganglion. The main station for the innervation to the lower extremity is in the second ganglia, which corresponds to the pattern discussed above in the upper extremity.

The trachea, bronchi, lungs, esophagus, heart, and vessels in the thorax receive their sympathetic

## SCHEMATIC DIAGRAM OF THORACO-LUMBAR SYMPATHETICS

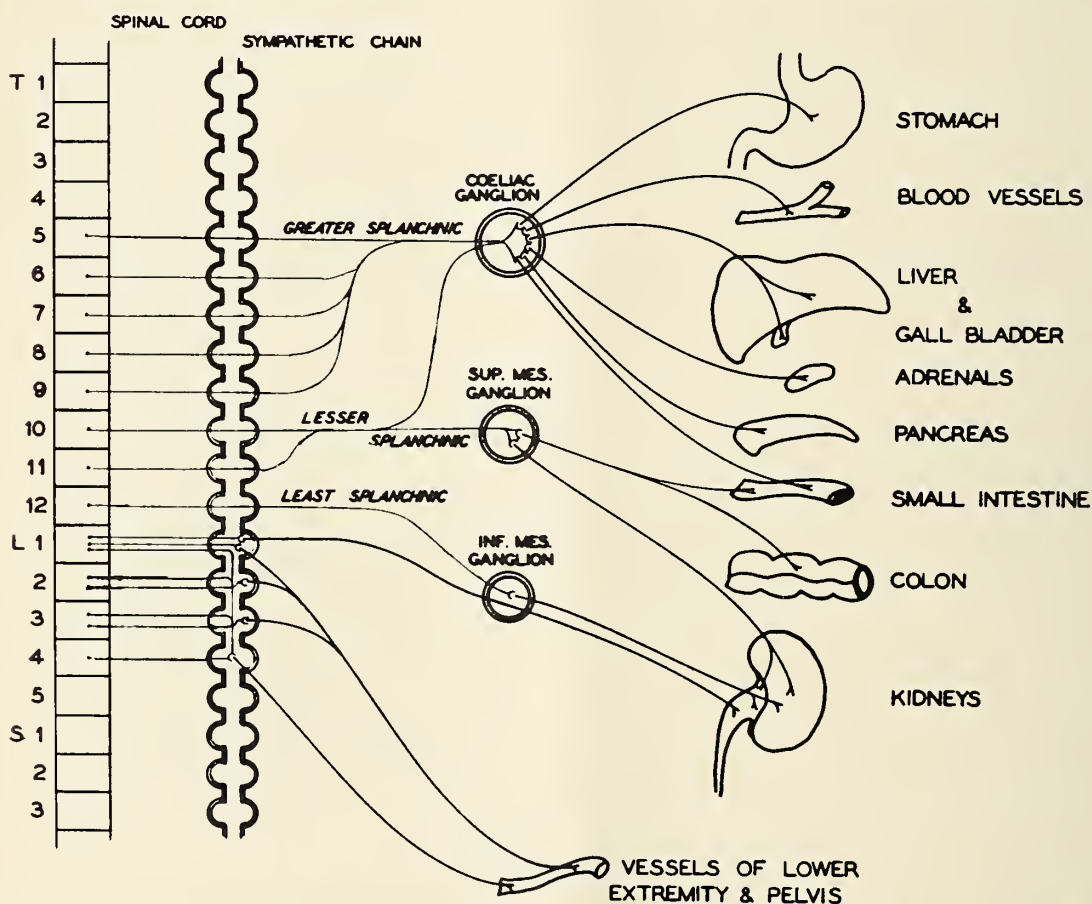


Fig. 2. Represents the widespread distribution of the nerve fibers of the sympathetics of the thoracic and lumbar regions. It is a schematic diagram revealing the variation in the synaptic relationship of certain nerves outside of the ganglionated sympathetic chains.



supply via the fibers arising from the first through the fifth thoracic levels of the cord. These pre-ganglionic neurons pass directly into the thoracic sympathetic chain at their respective levels, where they synapse with postganglionic neurons. They leave the ganglia at each level and pass directly to the structures and organs which they innervate.

The organs, blood vessels, and glands of the abdominal cavity receive their sympathetic nerve supply via the greater, lesser, and least splanchnic nerves. These nerves supply the liver, biliary tract, gallbladder, pancreas, stomach, duodenum, small bowel, and part of the colon, kidneys, spleen, adrenals, and associated abdominal arteries.

The vessels and organs in the pelvis, both male and female, receive the sympathetics from the lumbar portion of the sympathetic chain. The organs and tissues supplied are the urinary bladder, prostate, seminal vesicles, uterus, vagina, ovaries, and Fallopian tubes.

As mentioned in the early part of this presentation, there is a counterpart to the sympathetic nervous system known as the parasympathetics. These pathways supply the same tissues, organs, and structures as do the sympathetics, but their action is opposite to that of the sympathetics, as will be explained in the physiology of this system in a future article.

The structures of the head and neck which are supplied by the autonomic nervous system receive the parasympathetic supply through certain cranial nerves. These cranial nerves are composed of somatic motor or sensory components but also convey the motor and sensory fibers of the parasympathetic nervous system. These cranial nerves are the oculomotor, III; facial, VII; glossopharyngeal, IX; vagus, X; and spinal accessory, XI.

The fibers accompanying the oculomotor nerve supply the smooth muscles of the iris of the eye, ciliary muscles to the lens of the eye, and the lacrimal glands. The nerve fibers which pass with the facial nerve innervate the submaxillary and sublingual glands. The parasympathetic fibers in the glossopharyngeal nerve supply the parotid gland, and the fibers of the spinal accessory are distributed via the vagus nerve.

The vagus nerve is the largest and one of the most important of the cranial nerves, including its large parasympathetic component. Its clinical importance will be stressed and discussed fully in a future article. However, its parasympathetic distribution is widespread. It supplies the esophagus, stomach, duodenum, liver, biliary tract, gallbladder, pancreas, spleen, small intestine, and portions of the colon, the lungs, trachea, bronchi, and heart. The most important portions of this distribution are those to the heart and stomach.

The structures contained in the pelvis, as the urinary bladder, uterus, rectum, etc., receive their parasympathetic supply by way of the sacral plexus derived from the second, third, and fourth sacral levels of the cord and chain. These three nerve

trunks form a nerve known as the *nervus erigentes* or the pelvic nerve.

This presentation represents a brief description of the gross anatomical structure of the autonomic nervous system and its important functions in the control of many automatic and vital activities of the body. The divisions of this system have been discussed, and the general pattern of origin, synapse, and distribution has been presented. This basic anatomical review is necessary if one is to understand the physiology and clinical application of this portion of the nervous system to the treatment of certain diseases and conditions which are influenced by the action or disturbances in the physiology of the autonomic nervous system.

## PROBLEMS IN OCULAR PROSTHETICS

LEE ALLEN

A. E. BRALEY, M.D.

AND

HOWARD WEBSTER\*

IOWA CITY

CONSIDERABLE TECHNICAL INFORMATION on plastic eyes has been published since their development in 1939. Ironically, most of this has appeared in dental journals to which ophthalmologists rarely refer. Some information on ocular prosthetics has been included in papers on orbital and muscle cone implants, but in most cases emphasis on the implant itself has precluded a thorough discussion of the associated prosthetic problems. A very few technicians working in ophthalmology have published on the subject. Prince<sup>1</sup> in England has published two small monographs on ocular prosthetics which are very helpful to the technician but of questionable interest to the surgeon. Bethke<sup>2</sup> in this country has published one paper which serves much better, since he limits his subject to features in the prosthetic eye which should be as much a concern of the ophthalmologist as of the prosthetist.

In our clinic the prosthetist and surgeon have been able to work closely together. This cooperative arrangement and the opportunity for a fairly broad experience with a variety of prosthetic problems has fostered an appreciation of the interdependence of the surgeon and technician. Our belief continues to grow that each of these professional groups must eventually be better informed of the fundamental principles behind the other's work. The following, in our experience, constitutes ocular prosthetics.

The need for prosthetics may already exist or will exist as the result of an impending surgical procedure. If satisfactory cosmetic results may be added to a physiologically sound operation, the necessary additional surgical steps should be taken. The best possible care should be given while heal-

\* From the Department of Ophthalmology, College of Medicine, State University of Iowa.

ing takes place. The prosthesis, in any case, should be engineered to the best abilities of the prosthetists, with guidance of the surgeon if necessary. Cosmetically it should create the illusion that the patient's eye is still present and normal (as far as possible) in the individual. The final result should be comfortable and should protect the health of the socket and adjacent tissues. It should spare the patient all possible emotional discomfort. The

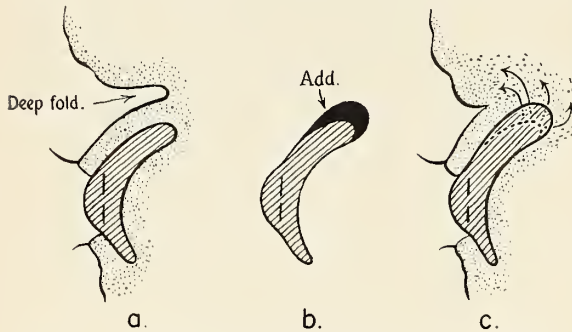


Fig. 1. A too-deep supra-orbital fold can be corrected.

best course of care of the socket and prosthesis should be established for each patient. And, finally, the patient should be told that the shape of the prosthesis can and should be adjusted to expected changes in the shape of the socket.

We have studied these points individually and as they relate to and affect each other. They will be dealt with in this report, generally, as they have been observed in several hundred cases during the past eight years and especially as they are seen in records of 128 cases during the past two years.

Three factors appear to be beyond our control at the present time. One is a product of the age and related physical condition of the patient. Most children can be given comfortable prostheses which fill the sockets and shape the adjacent tissue to normal appearance. They are likely, also, to have somewhat better motility of the prosthesis than those operated at a later age. Beyond 10 or 12 years of age, imperfections in prominence, contour of the lid margin, depth of the supra-orbital fold, etc. occur more commonly, until in senility the majority of persons are extremely difficult to fit satisfactorily.

On the other hand, one of the observations which impressed us most was the fact that aging had little effect upon the cosmetic appearance of cases which had been operated in childhood, and fitted and refitted properly.

One other factor is trauma preceding the eye removal surgery. Obviously, such changes as loss of lid tissue complicate the prosthetic fitting.

Another factor is the unpredictable variations in healing. Some of these variations may be anticipated on the basis of attention to surgical detail. We have noted that patients with both eyes removed present similar problems on both sides when both operations are performed within a short period of

time. And again the same careful surgeon, operating upon different patients in an age group, can have different results at times. This may point suspiciously toward differences in tonicity of tissue or differences in the formation and nature of scar tissue in some individuals. In any case, care in the details of surgery must be stressed.

#### SURGERY

The surgeon's choice of type of operation for eye removal has widened somewhat in recent years. For surgery limited to the globe, there are now six different basic procedures in use over the country.

1. Enucleation (simple).
2. Enucleation with ball implant.
3. Enucleation with muscle cone exposed implant.
4. Enucleation with muscle cone buried implant.
5. Evisceration (simple).
6. Evisceration with buried implant.

*Simple enucleation* is the most common procedure. *Enucleation with inclusion of ball implant* in the muscle cone is seen, but is likely to prove disappointing because of fitting difficulties if the ball becomes displaced. Both the newer integrated *muscle cone implants* and the *buried* type affixed to the muscles have major advantages over the earlier ones. Permanence of retention remains to be proved in both cases, although experience in some sections of the country indicates that the *buried* type has a promising future. *Evisceration* is done frequently, but suffers from the danger of possible sympathetic ophthalmia. *Evisceration with gold, glass, or plastic ball implant* is used occasionally, but frequent extrusion of the implant tends to limit its popularity.

One hundred twenty-eight prosthetic cases were seen in our clinic during 1951 and 1952. Seventy-three of these were simple enucleations. Forty-five were enucleations with buried muscle cone implants. Six were simple eviscerations. One was an evisceration with glass ball implant. The other procedures were not used.

#### Enucleation (simple)

In enucleation by the usual surgical procedure,

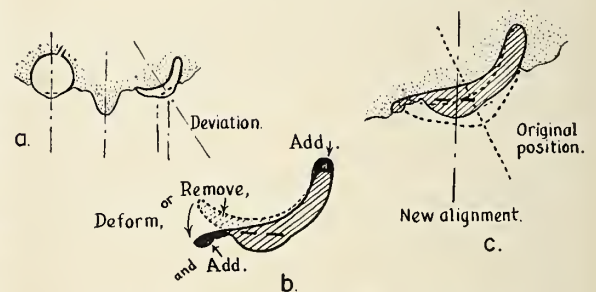


Fig. 2. A remedy for simulated exotropia.

one preserves all the tissues except the globe and its contents, disturbing the ligaments as little as possible, and closing Tenon's capsule and con-



junctiva with a purse string suture. About one month after surgery, some of the patients are fitted with stock eyes by an optician. Those requiring improvement over the stock fitting are seen by the prosthetic technician. At S.U.I. 47 of this group were fitted with altered stock eyes or custom prostheses. Upon insertion of a standard shape, noticeable form distortions which are positively related to the ensuing fitting problems may or may not show up. The distortions may be moderate or extreme.

Thirteen of our group had sagging of the lower lid. Twenty-nine had noticeable deepening of the supra-orbital fold. Nineteen had some distortion of the upper lid. The lids opened too widely in 17 patients. Two had tight strands of tissue across the fornix. Seven had rolls of fatty tissue in the lower fornix. Four had some degree of ptosis.

A number of cases were of special interest. Six enucleations were performed in five children under five years of age because of retinoblastoma. Two of these operations were performed within seven days in the same child, aged fourteen months. In the surgery of most retinoblastoma cases a little more than usual of the optic nerve is excised in an attempt to remove all possible tumor. This latter was done in the five children. All features in the sockets appeared excellent as a base for prosthesis, except that the prosthetist noted an unusual depth and near spherical form of the sockets.

Three of the children were fitted with semi-custom prostheses; that is, a stock plastic eye was reshaped arbitrarily to the apparent shape of the socket. A slight recession of the eye which would go unnoticed was the only difference from the other eye, except for the color and iris detail.

One child was fitted with a custom eye based upon an impression of the socket.

The child who had both eyes removed was first fitted with stock plastic eyes with the edges re-

left out of the sockets for ten days while antibiotic therapy was used to correct the condition. At the end of the ten days an impression was made of each socket, and the eyes were reshaped to match the impression so that no cavities were left for accumulation of the ocular secretions. There has

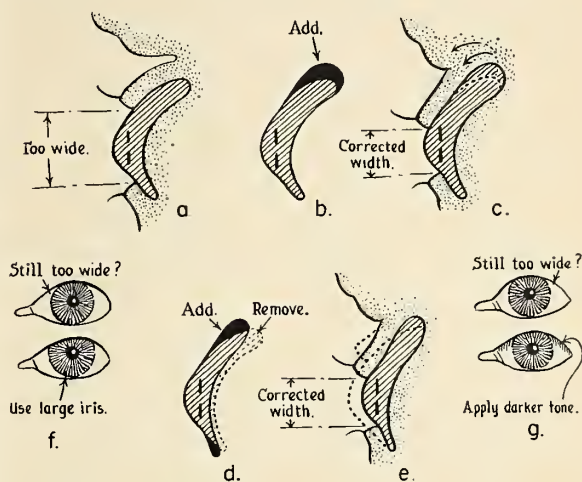


Fig. 4. Three ways of remedying a too-wide palpebral fissure.

been no recurrence of the discharge or blepharitis since that time. However, the nearly spherical shape of the eyes soon allowed the eyes to roll. Several successive refittings have apparently corrected the difficulty.

Since that time the case of another child has followed an identical course. It is now agreed that an impression type fitting is advisable in all such cases.

One case of accidental trauma had loss of lid and conjunctival tissue, which limited the final prosthetic result to an arbitrary classification of "fair." The eye was recessed several millimeters to allow the lids to close to near normal fissure.

One patient with a 7th nerve palsy could not retain a prosthetic eye. This was corrected very satisfactorily with a tarsorrhaphy placed about 10.0 mm. in from the temporal canthus and with a semi-custom prosthesis of odd shape. The result was classed as "fair."

One patient had such lack of tonus in all orbital tissues that the lower fornix was obliterated. A tarsorrhaphy and a 1.5 mm. thick conformer created a fair fornix after two months. A prosthesis with a very long and thin extension of the lower edge remained in place rather tenuously. The final result was surprisingly better than expected, but it was placed in the classification of "poor" as compared with other custom fittings.

#### Enucleation With Ball Implant

No enucleations with ball implant were performed. However, two cases done in our clinic many years ago were refitted. One was a bone ball, an exception to the rule that all such experimental

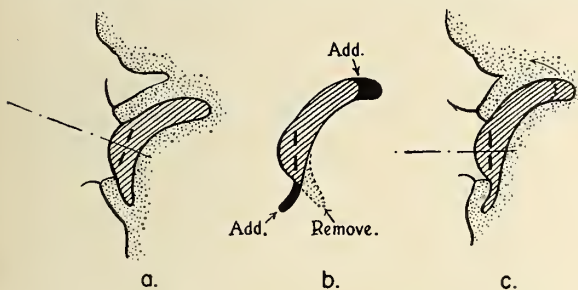


Fig. 3. A means of correcting stimulated hypertropia.

shaped. Two difficulties arose almost immediately. Both prostheses rolled unpredictably in the sockets; but worse, the child was returned to the clinic very soon with a blepharitis and the complaint of a purulent discharge from behind both prostheses. Upon removal of the eyes the sockets appeared markedly injected. Sensitivity to the plastic was considered, but dismissed upon the basis of experiences in previous cases. The prostheses were

implants have long ago been extruded. The implant was in a good central position. During the refitting, a ptosis of the upper lid and a sagging of the lower lid were almost completely corrected. Motility of the prosthesis was fair, probably since an impression was used as the basis for the posterior surface of the artificial eye.

The other case was in a boy of seventeen with a

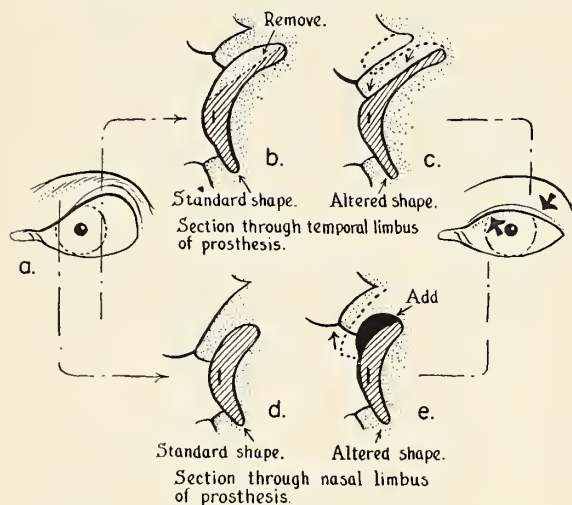


Fig. 5. Changing the shape of the upper-lid margin.

glass ball implant. A ptosis had been developing slowly since the surgery seven years before, until it had reached the point of disfigurement. Examination of the socket showed about one-half the curvature of the ball protruding sharply from the surrounding tissue, covered by conjunctiva and Tenon's capsule only, but in a good central location. The ptosis in this case was difficult to correct, but the final result was classed as "good."

Both these cases were exceptions in one particular respect. All other cases fitted previously with plastic eyes had the ball displaced in such a way as to make fitting with a standard shape very unsatisfactory. A stock eye will either stand on end or tilt in an otherwise unsightly manner. The patient is likely to have discomfort. From the prosthetic technician's point of view, this is one of the most difficult types of sockets to fit.

#### *Enucleation With Exposed Muscle Cone Implant*

No enucleations with integrated muscle cone implants have been done in our clinic since 1948, largely because of the high incidence of extrusions or removal in those done before that date. But because of the excellence of the cosmetic results obtainable, we will review some of the main points of the procedure.

Details of surgery which must be carefully attended are: the implant must be placed at an optimum depth; too deep will limit rotation, and too shallow will create serious fitting problems, if not a simulated exophthalmos. Tenon's capsule should be carefully retained and brought as far

forward around the implant as its specific design will allow. A slight excess of the conjunctiva should be carried beyond the anterior border of Tenon's capsule and the most anterior muscle tissue to insure that the edge of those underlying structures will be covered and protected. However, drawing too much conjunctiva up around the peg will reduce the size of the cul de sac and cause unfavorable tensions in the fornix.

The prosthesis should be fitted to fill the space without leaving large cavities which might collect secretions.

One child age nine who was operated outside our clinic had a Stone-Jardin implant to which a custom eye was fitted by the impression technique in our clinic. Infection and discharge were a slight problem for a while, but recently these have been controlled by careful prophylaxis. The cosmetic result was "excellent."

It is admitted that no other type of implant will consistently give the fine motility of the integrated type. Since the prosthesis is keyed solidly with the implant, the upper lid can be supported in almost any desired manner, and the supra-orbital fold can be well filled in many patients who might otherwise show an obvious deformity. There seldom is any sagging of the lower lid because the prosthesis is not supported by the lower fornix, as is basically true in all other types of surgical foundation. Extra prominence and exposure of the edges of the prosthesis can be problems if the implant is not placed deeply enough during surgery.

#### *Enucleation With Buried Muscle Cone Implant*

Forty-five enucleations with buried muscle cone implants have been done in the two year period. The patients ranged in age between three and one-half and seventy years, inclusive.

The following have proved to be the important details of surgery in relation to retention, ease of

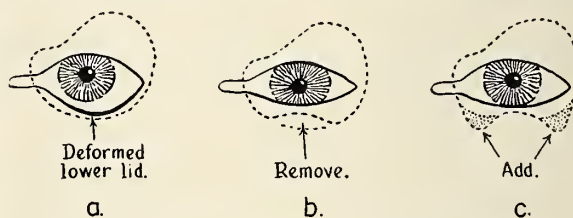


Fig. 6. A remedy for sagging of the lower lid.

prosthetic fitting, motility, and other cosmetic features.

1. As much of the conjunctiva and Tenon's capsule as possible should be preserved for covering the implant without reducing the size of the cul de sac.

2. Damage to Tenon's capsule should be avoided in separating it from the globe.

3. The rectus muscles should be separated by cutting their fascial attachments for 15 mm., except



in the case of the inferior rectus. It should be freed for about 10 mm., or as far as possible without completely sectioning the ligament of Lockwood. The freeing of the muscles is done to prevent a tension around the edge of the implant which might create dehiscences. The ligament of Lockwood is preserved to prevent herniation of fat from behind the implant.

4. In freeing the superior rectus muscle, one should be careful not to damage the levator.

5. The apposing rectus muscles should be overlapped 10 mm. to pull the implant to an adequate depth in the muscle cone.

6. Conjunctiva should be closed horizontally with interrupted sutures.

A conformer is placed in the socket about five days after surgery, and worn for at least three weeks. After that time the patient is fitted with a radically altered stock, a semi-custom, or a custom plastic eye. When a standard shape is first tried in the socket, some differences in form between this and the real eye may be seen. Those seen in the 45 cases are reviewed.

Twenty-one had some sagging of the lower lid. Twenty-three had noticeable deepening of the supra-orbital fold. Deepening of the fold was no problem in 10 of 13 children under fifteen years of age. Sixteen patients had distortion of the upper lid. The lids tended to open too widely in 19 cases. Eleven had herniation of fatty tissue around the edge of implant. Most of these were in the lower fornix. The implant in one patient 62 years old was removed because a dehiscence in the conjunctival and Tenon's tissues resulted in necrosis and release of the inferior rectus muscle.

Many surgeons have avoided the use of the Allen implant because so few prosthetic technicians understand the simple principles of fitting such a socket. They do not appreciate the need for making the back surface of the eye perfectly flat (except for tips extending safely around the edges of the implant). Since the procedure has proved so advantageous as a base for good cosmetic results, it seems that some answer should be found for the question of fitting.

#### *Evisceration (simple)*

Six simple eviscerations were performed. The surgeon can do very little during this operation which will affect the prosthetic fitting one way or the other. The preservation of as much scleral material as possible is the only point which might be of importance in this respect. Beyond this, the important point is removal of all uveal tissue to prevent sympathetic ophthalmia.

Three of the six patients seen were fitted with stock prostheses by an optician. The other three presented few difficulties in the custom fitting. However, all required early refittings, at which time distortion of the upper lid and reduction of motility were encountered in two adults.

The prosthetists feel that, in adults, shrinkage

of the sclera counteracts the theoretical advantages of the operation by actually pulling the surrounding tissues out of place.

#### *Evisceration With Buried Implant*

One evisceration with ball implant was done in the two year period. The same surgical precautions as in simple evisceration apply here, with the addi-

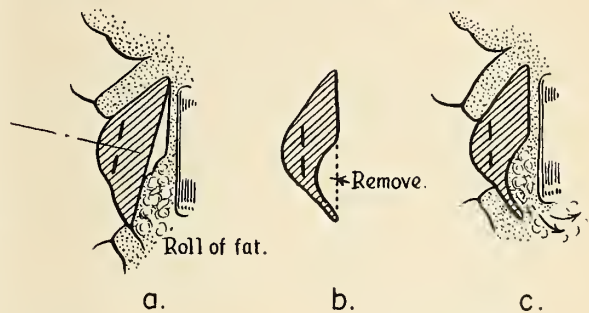


Fig. 7. Accommodation for prominent rolls of fatty tissue.

tion that a relatively small ball should be used. This has two advantages over too large an implant. First, it is more likely to be retained, and, secondly, it leaves adequate room for a prosthesis.

A 10 mm. plastic ball was implanted in this one patient. An impression technique was used. The original problems and results were hardly distinguishable from those of simple evisceration.

#### POST-OPERATIVE CARE

Post-operative care in most of the types of surgery we have discussed is well known to all surgeons. There is a preference for pressure dressings used for five days following surgery of the integrated or buried muscle cone implants. Also, in these two types it is desirable to use conformers, which are furnished by the manufacturers, until the prosthesis is fitted. The need for the conformer in the buried type is not so much to shape the socket as to protect the lid conjunctiva from the clipped eye lashes and to keep the meibomian glands functioning properly.

#### PROSTHETIC FITTING

The technician has five contributions to make to prosthetics. He must "engineer" the shape of the prosthesis to mirror, in as many respects as possible, the form and motility of the patient's remaining eye. He must fill the socket comfortably and in a manner which will assure the health of the tissues. He must create illusions with colorations of the eye which will help hide any remaining form defect. He must create with texture and color the impression of living tissue to the extent that the eye is accepted as the patient's own in spite of other defects which cannot be hidden. He must use all care in the handling of his materials to guarantee the least danger of sensitivity to the plastic and to assure all possible permanence.

Manipulation of the form of the prosthesis to force the lids and other structures into the desired positions is the most important part of the fitting procedure. Many technicians are not well versed in this phase of the work. Since such is likely to be the case for some time, it would be ideal if the surgeon could offer constructive criticisms on any fitting problems which arise.

Some problems cannot be fully solved in every

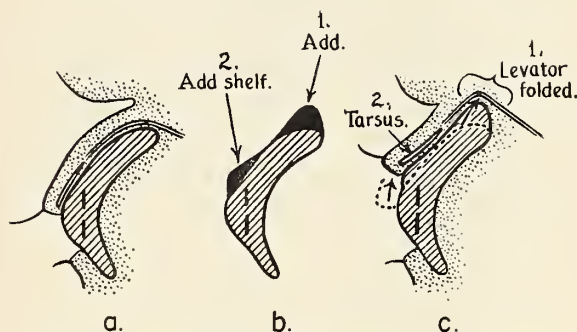


Fig. 8. Ptosis following surgery usually can be corrected.

case. In a few they cannot be solved at all. Both the surgeon and the prosthetist must be prepared to compromise on the final result, if necessary.

It must be emphasized that correction of one fault may reveal another. Correction of the second may reveal a third, and so on. The final result is achieved when the cosmetically most acceptable compromise is reached.

#### Deep Supra-orbital Fold

An abnormally deep supra-orbital fold (Fig. 1, a) can be corrected best by adding material to the superior surface and edge of the eye (b), thus forcing the surrounding tissue upward and forward to fill the fold (c). If this added material forces the whole plastic eye downward, it can usually be lifted again by extending the nasal and temporal parts of the lower edge downward as supports. If a noticeable difference in the level of the pupils is still seen, base down prism up to 5 Δ may be used in a spectacle lens over that eye.

#### Simulated Exotropia

Simulated exotropia (Fig. 2, a) can be overcome by deforming the nasal tip forward, and, possibly, extending the temporal edge of the eye backward (b). Thus the simulated exotropia will be corrected, as in (c). The nasal tip can be formed and colored to appear as the caruncle, or an extra roll of conjunctiva if necessary. Surface ripples (well polished) break up abnormal highlights from abnormal planes.

#### Simulated Hypertropia

Simulated hypertropia (Fig. 3, a) is corrected (c) by deforming the inferior edge of the plastic eye forward and possibly extending the superior edge backward (b). The deformation of the lower

edge can be extreme without bulging the lower lid noticeably. The principle has proved safe in our experience so long as the lower lid margin and punctum contact the surface of the eye.

#### The Palpebral Fissure Too Wide

Too wide an opening of the palpebral fissure (Fig. 4, a) can be corrected in some cases by adding material to the upper edge of the prosthesis (b) in an attempt to roll the lid forward and downward (c). If this technique fails, flattening and thinning of the eye (d) will generally accomplish the desired effect. From most patients' point of view, the slightly sunken appearance which results is far preferable to the "starey look," as they describe it. (If both these methods fail, a large iris and cornea (f) and gray toning of the sclera (g) along the upper lid (e) will be effective as space fillers.)

#### Deformity of the Upper Lid Margin

Deformity of the upper lid margin (Fig. 5, a) may be simply an elevation of the temporal half, or it may be accompanied by a drooping of the nasal half of the lid. To correct the first, the surface of the prosthesis in the region of the superior temporal limbus is removed (b) to let the lid drop downward (c). If the nasal half of the lid is involved as in (d), transparent plastic added over the upper nasal limbus of the plastic eye will lift the lid margin, as shown in (e). It might be thought that such a disturbance of mass relationships would be apparent, but such does not prove to be the case. Even if it should show slightly, the effect is far superior to the original deformity. Most persons are more sensitive to silhouette, i.e., outline of the lid margins, than to subtle changes of plane.

#### Sagging of the Lower Lid

Sagging of the lower lid (Fig. 6, a) can almost always be corrected by removing material from the lower edge of the eye in the region which approximates the deformity (b). If this removal lets the prosthesis drop downward, it can be supported upward near the nasal and temporal canthi where the proximity of tendons furnishes adequate resistance (c). To accomplish this, material is added to the nasal and temporal sections of the lower edge of the eye.

#### Rolls of Fatty Tissue

Prominent rolls of fatty tissue (Fig. 7, a) in any of the surgical procedures can be accommodated by hollowing the back of the prosthesis in the area (b). The hollow need not be as large as the roll because the pressure of the prosthesis against the roll will reduce it somewhat (c). In some cases the roll will, in time, recede and the prosthesis can be reshaped. The presence of such a mass in the lower fornix sometimes makes it necessary to thin the lower edge to nearly 1 mm. thickness



over quite an expanse. If the edge proper is not sharp, its thickness will not cut or irritate.

### Ptosis

Ptosis (Fig. 8, a) which follows surgery can generally be corrected until it is not noticed, and if not too marked in the beginning, sometimes can be completely overcome. In our experience, it would seem that ptosis which precedes surgery can be corrected in very few instances.

Correction follows two principles. One is to add material upward from the upper edge of the eye (Fig. 8, b, 1) more or less to fold the levator muscle (c, 1). The other is to make a tilted ledge just above the limbus of the prosthesis (b, 2) for the superior tarsus to rest upon (c, 2). When such an improvement has been made upon a ptosis which follows surgery, the upper lid will usually close with blinking. If the correction is of ptosis which preceded surgery, the lid generally will not close.

### Irregular Forms in the Socket

Irregular forms in the socket, such as tight strands of tissue (Fig. 9, a) or displaced ball implants can be allowed for by taking an impression of the space. A skilled technician can make variations on the impression at non-critical points to shape the lids, etc.

### Coloring

The use of color for the iris, sclera, vessels, and conjunctiva is too technical to be dealt with here, except very broadly. Correct value is more important than correct color in the iris, but of course there is no substitute for an exact match. Most stock prostheses are too white on the nasal tip, and where a false caruncle is added to an eye, it should be very pink.

The use of gray tone just below the upper lid margin to create a space-filling illusion has already been mentioned.

### Processing

The plastic in the prosthesis should be very dense and with no free monomer to cause mechanical or chemical irritation. The degree of polish needed is a matter of conjecture, but there is undoubtedly a maximum tolerance to the size of hairline scratches left in polishing.

A development which might be confused with irritations from improper processing or inadequate polishing is an undue amount of secretion or discharge from the socket. Often the source can be traced to unfilled cavities where tears and other secretions collect. Elimination of these cavities, as indicated earlier in a discussion of the children with enucleations for retinoblastoma, will help reduce the discharge. Many senile persons cannot be helped by any means.

### CARE OF THE SOCKET AND PROSTHESIS

The course of care of the socket and prosthesis

must be adjusted to the individual. Many persons must remove and wash the prosthesis frequently, while others can wear it constantly for a year or more. For some time each patient fitted in the clinic was advised to wear the eye indefinitely, with instillation in the socket of 1:5000 zephiran chloride drops as a prophylaxis about once each week. Some persons did well on this routine.

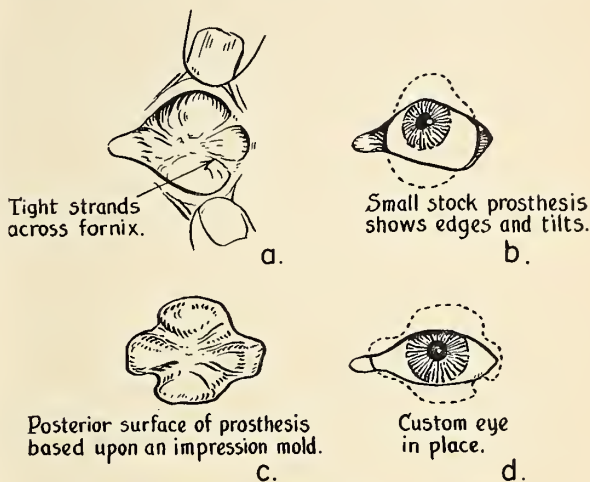


Fig. 9. By taking an impression, a skilled technician can make allowances for irregular forms in the socket.

Others returned after varying periods with a thin, tough, irritating film deposited just in the areas underlying the open lids. None was seen in the palpebral fissure area and very little on the posterior surface of the prosthesis. One person who had worn the eye continuously for one year, most of that time without discomfort, came in complaining of discomfort and an abnormal amount of secretion which had begun with a cold. The deposit on her plastic eye was so heavy that it could be scraped off and analyzed. It was found to consist entirely of protein. After thorough cleaning, the eye appeared to be highly polished, but it was repolished and the patient placed on a new schedule of cleaning the eye with soap and water once each month.

### REFITTING

Space within the socket will likely increase noticeably for at least one month after the original fitting. Further changes are likely to continue slowly over a period of many years. The prosthetist should make adjustments when they are needed.

As the adjustments are made, the technician may be able to improve upon defects which were only partially corrected at the original fitting.

### REFERENCES

1. Prince, J. H. *Ocular Prosthesis*. E. & S. Livingstone, Ltd., Edinburgh, 1946.
2. Bethke, E. G. *Criteria and guide for evaluation of ocular prostheses*, *Am. J. Oph.*, 35:527-536 (April) 1952.

Recent Advances in Ocular Prosthesis. The Williams and Wilkins Co., Baltimore, 1950.

Mercy Hospital, Des Moines  
CLINICOPATHOLOGIC CONFERENCE

May 5, 1953

SUMMARY OF CLINICAL FINDINGS

THE PATIENT, a 63 year old housewife, was admitted to Mercy Hospital, Des Moines, on October 27, 1952. She had been in good health until June, 1952, when she had a severe respiratory infection that was diagnosed as bronchopneumonia. Her recovery from the pneumonia was uneventful. Approximately three weeks later, however, she began to have recurrent episodes of chills and fever which appeared every week or so and lasted one to three days. The fever would be as high as 103 degrees, and the chills were very evident. There were no localizing signs or symptoms at the time, for the review of systems was essentially negative and physical examination was negative. The chills and fever continued. During the early part of October, 1952, one of these episodes of chills and fever was associated with severe epigastric pain. As part of her examination, a cholecystogram was done, which revealed a nonfunctioning gallbladder containing gallstones. Re-examination of the history revealed no radiating pain, jaundice, flatulence or clay-colored stools.

Past history revealed she had had rheumatoid arthritis for several years. There had been slight exertional dyspnea, occasional pedal edema and occasional dysuria for several years. She had toxemia of pregnancy at age 24. Menopause had occurred at age 50 and there had been no subsequent vaginal bleeding.

Physical examination revealed a temperature of 99.4 degrees, pulse of 80 and regular, blood pressure of 128/74, and respirations 16 and regular. The patient was a well developed, well nourished white female not in acute distress. Positive findings in the physical examination consisted of slight left, lower quadrant abdominal tenderness and a slight edema of the lower extremities.

Laboratory studies were performed on admission to the hospital. A hemogram showed 12.1 Gm. of hemoglobin, 3,510,000 red blood cells, 57 per cent neutrophils, 3 per cent eosinophils, 36 per cent lymphocytes and 4 per cent monocytes. Bleeding time, 3 minutes; coagulation time, 5 minutes. A urinalysis showed an alkaline reaction, 1.006 specific gravity and sugar and albumin negative, and the sediment contained an occasional pus cell and large amounts of amorphous material. The blood serology was negative.

On October 28, 1952, the gallbladder and appendix were removed. In the course of the abdominal exploration a "papillary tumor" 1 cm. in diameter was found on the posterior serosal surface of the stomach. Pathology report on the specimens was: Leiomyoma of the posterior wall of the stomach; chronic cholecystitis with cholelithiasis and chronic fibrous appendicitis. Following surgery

there was moderate distention of the abdomen, and the temperature reached a maximum of 102 degrees rectally on the second postoperative day. It was normal on the third day. She was discharged on the eighth postoperative day.

SECOND ADMISSION

The patient was readmitted on January 4, 1953, because of recurring episodes of fever and chills and pain over the left kidney region. There had been a questionable phlebitis of the left leg on New Year's Day. She had lost 40 pounds in weight since October, 1952. Bowel movements were regular. She had vomited once before breakfast two days before admission.

Physical examination on this admission revealed a temperature of 102.4 degrees, pulse of 84, blood pressure 110/64 and respirations 20 and regular. The patient appeared well nourished. The pupils were round and equal and reacted to light and accommodation. The fundi were normal. Crepitant rales were present at the bases of the lungs, posteriorly. The breasts were pendulous. The heart was not abnormal. The peripheral pulses showed moderate sclerosis of the peripheral arteries. A recent, well healed surgical scar was present on the upper abdominal wall on the right side. There was tenderness to palpation below the right costal margin. Pelvic examination was negative. There was pain in the ankles, knee and hip joints on passive motion. There was some tenderness on percussion over the spine. All sensory and motor reflexes were intact. A hemogram which was performed on January 5, 1953, showed 8.9 Gm. hemoglobin, 2,850,000 red blood cells, 9,000 white blood cells with a differential count of 62 per cent neutrophils, and 38 per cent lymphocytes. There was moderate anisocytosis, poikilocytosis and central achromia. Another hemogram was performed on January 24, 1953. It showed 9.3 Gm. hemoglobin, 11,000 white blood cells and 74 per cent neutrophils. A urinalysis performed on admission showed a specific gravity of 1.015, no sugar or albumin, and sediment containing 2 to 4 red blood cells and an occasional white blood cell per high power field. A urinalysis on January 25, 1953, showed the same findings as those on admission with the exception of a specific gravity of 1.010. Blood serology performed on January 5, 1953, was negative. An electrocardiogram on January 16, 1953, showed left axis deviation. The sedimentation rate on January 17, 1953, was 9 mm. fall in one hour (Westergren method). On January 19, 1953, examination of a stool specimen showed presence of occult blood. On January 22, a stool specimen was negative for the presence of occult blood. On January 22, a tuberculin skin test was negative in the first strength but positive in the second strength. Blood specimens secured on January 19 were cultured and negative for growth after five days' incubation. On January 19, bone marrow was reported as normoplastic and cultures of the marrow were



negative for Brucella or other microorganisms. On January 25 agglutinations for typhoid "O," "H," paratyphoid "A" and "B," Brucella and proteus OX-19, were negative. A catheterized specimen of urine submitted on January 25 showed no pathogenic organisms on culture. X-ray surveys of the chest, skull, esophagus, stomach, duodenum and colon were normal. Retrograde pyelograms revealed multiple small irregularities of the calices, but the radiologist would not commit himself as to their significance, though he suggested that they might be congenital malformations.

Throughout the patient's hospital stay her temperature ranged above 100 degrees with the exception of three readings of 98.6 degrees. The temperature was not altered by two separate courses of penicillin, one of 6,000,000 units in nine days and the other of 9,000,000 units in twelve days. The pulse ranged between 70 and 110. On January 21 the patient's physical findings were reported as essentially negative. On January 23 there was a moderate degree of meningismus and restlessness requiring sedation with barbiturates. On January 25 the patient had a butterfly area of erythema on her face. This finding was not confirmed by other examiners. Blood and bone marrow were reported negative for lupus erythematosus cells.

On January 28 a lumbar puncture revealed normal pressure (158) and normal dynamics. The fluid was clear and transparent and laboratory studies revealed no abnormalities. On January 31 the patient was discharged as unimproved and without a diagnosis.

### THIRD ADMISSION

The patient was readmitted on February 11, 1953. While at home the patient's neck had become more stiff and she became comatose. The fever continued, there were facial grimaces but no convulsions or athetoid movements. Temperature was 103.6 degrees; blood pressure, 95/60; pulse, 140; and respirations, 35. The skin and sclerae had a yellowish tinge. The pupils were round and equal and reacted to light. An inadequate funduscopic examination suggested elevation of the discs. The tongue and roof of the mouth were covered with white plaques. Smears of these lesions contained yeast forms of *Candida*. The neck was rigid. The chest, heart and lungs were negative. The patient groaned when the abdomen was palpated. No definite masses were palpable. No edema of the extremities was present and the lymph nodes were not enlarged.

A hemogram performed on admission showed 7.9 Gm. hemoglobin, 4,110,000 red blood cells, 12,700 white blood cells with a differential count of 1 per cent juveniles, 13 per cent bands, 69 per cent segmenters and 17 per cent lymphocytes. There was one nucleated red blood cell per 100 white blood cells. An occasional plasma cell was seen in the peripheral blood smears. Hematocrit, 29 volumes per cent. Platelets, 174,000 per cu. mm.

Sedimentation rate, 118 mm. fall in one hour (Westergren method). Urinalysis was not changed from previous reports. Cerebrospinal fluid examination showed a total count of 2 cells, both mononuclears and a total protein of 12 mg. per cent. Blood urea nitrogen levels varied from 36 to 72 mg. per cent on three occasions. The total serum protein was 5.3 Gm. per cent, albumin, 3.5 Gm. per cent, and total serum bilirubin, 2 mg. per cent. An electrocardiogram revealed sinus tachycardia with a left axis deviation.

The patient's temperature remained around 102 degrees rectally with pulse ranging from 90 to 160 and respirations varying from 40 to 50. On February 14 there was definite jaundice. There was no splenomegaly. Generalized abdominal tenderness was present and there were rales in the lung bases. She expired on February 16, 1953.

### CLINICAL DISCUSSION

Dr. F. C. Coleman: The scientific program tonight consists of a clinicopathologic conference with the clinical discussion to be given by Dr. Chambers. With your staff-meeting notice this past week each one of you received a mimeographed copy of the clinical history of this patient. We hope that you have read it. As has been the custom in the past, the autopsy diagnosis in this case is unknown to Dr. Chambers. He is attempting to make a diagnosis solely from the information contained in this mimeographed clinical history.

Dr. J. W. Chambers: Dr. Coleman, members of the staff and guests, it is always comforting to have Dr. Coleman explain that the diagnosis is unknown to me as well as to you because I am sure that after we have finished the discussion it may still remain unknown.

Since you also have this protocol, I won't go through it in detail. I have made a brief digest on which I am going to build my case. We have the case of a 63 year old white woman who was ill approximately eight months. She had a febrile disease which went progressively downhill. It was characterized by joint and muscle pains, by vague abdominal pains and tenderness. It terminated in a meningoencephalitic episode with jaundice and finally death, apparently by exhaustion with a terminal uremia. In order to include the many possibilities which occurred to me in reading over this long and admirably worked-up case, I have made a list and will attempt to eliminate them as possibilities by the facts given. One should keep in mind with this sort of discussion that the speaker must accept as true all the details and facts given here and all the laboratory and physical findings as factual and without equivocation; otherwise, one gets lost in speculation. With that understanding I will go through this summary of diseases which I considered and dismissed.

First, cholecystitis and appendicitis. If you will recall, this patient was admitted to the hospital



with gallbladder symptoms and gallstones were demonstrated. She was explored; the stones and the gallbladder were removed and the appendix was removed, but the disease continued. Therefore, I conclude that these were not her primary disease. I mean to say that in spite of the fact that she did have chronic appendicitis and gall-



Fig. 1. Photograph of cut surface of the right lobe of liver. Note poorly defined metastatic lesions.

bladder disease with stones, they did not cause her eventual death.

Secondly, leukemia. We know that certain leukemias have the picture presented by this case, but this woman had numerous blood counts, all of which were normal except for anemia. She had bone marrow studies and nothing abnormal was reported.

Lupus erythematosus has to be considered as a cause of chronic febrile disease. In this instance she had only one occasion where any skin manifestations were mentioned, and those were not confirmed by other observers. Secondly, LE cells were not found in her bone marrow smears.

Syphilis can produce such a picture, but she had a cerebrospinal-fluid Wassermann made and she had a blood serology, both reported as negative for syphilis.

Pulmonary tuberculosis, tuberculous meningitis and the various other forms of tuberculosis have been excluded by the negative x-ray findings in the chest and the normal cerebrospinal fluid. Pyelonephritis and chronic infections of the urinary tract, including tuberculosis, seem to be excluded by the fact that her x-rays of the genitourinary system were reported as essentially normal except for minor changes attributed to a congenital condition and by the absence of positive findings on urine culture.

Hodgkin's disease, which produces a febrile course similar to what we have read was excluded by bone marrow studies, by absence of findings

on clinical examination, absence of enlarged lymph nodes and by the negative x-ray findings of the chest. Chronic brucellosis was excluded by the absence of Brucella in the bone marrow cultures and by the negative agglutination test for that disease.

Various types of septicemia are excluded by sterile blood cultures, by the absence of a leukocytosis or positive agglutination tests. Subacute bacterial endocarditis was excluded by pretty much the same things—by the appearance of a normal heart in the x-rays of the chest, by the absence of murmurs, by negative blood cultures and by a very moderate anemia except at the terminal phase. Bacterial endocarditis is notably accompanied by anemia, which is usually severe.

Myocardial infarction can produce something like this, but the electrocardiograms were negative on two occasions—at least negative for infarction—and the sedimentation rate remained normal throughout this disease until the very end. This would have been rather unusual if infarction had been present.

Malignancy, metastatic or primary, cannot be entirely excluded, but I think it is fairly well ruled out by the fact that the x-rays were reported as negative. She had a complete gastrointestinal series as well as pyelograms. Presumably, an adequate exploratory study of the abdomen was made at the operation, but no abnormal findings were reported.

Rheumatic fever and rheumatoid arthritis, I think are excluded, despite the fact that rheumatoid disease was mentioned in the first part of the protocol, by the fact that there were no cardiac findings, there were no murmurs, the sedimentation rate remained normal and there were no elevations in her leukocyte count and she did not have the profound sweating that is present in many cases of rheumatic fever. The fourteenth item on this list is trichinosis, a slight possibility, but she never had the pronounced muscle pain which trichinella-spiralis infection produces. She did not have an eosinophilia, which is almost constantly an accompaniment of trichinosis.

Another factor which occurred to me in the exclusion process was the fact that with two extensive courses of penicillin, we can rule out, certainly, a number of diseases which are normally responsive to penicillin. These are, of course, infections with gram positive cocci, such as staphylococci, hemolytic and anaerobic streptococci, clostridia, pneumococci, gonococci, meningococci, anthrax, erysipelas, syphilis and spirochetes. It seems to me that had she had any of those, she would have been benefited by these two courses of penicillin—one, 6,000,000 units and the other, 9,000,000 units—but the history says she did not respond and continued her progressive downhill course. Other diseases which are susceptible to penicillin would be leptospirosis and actinomycosis, which probably would have been slightly



improved had she been suffering from them. The nonsusceptible conditions to penicillin include virus diseases, gram negative bacillary and fungus infections, amebiasis and malaria. I think the diagnosis will fall to one of those infections, although some consideration is given to periarteritis nodosa.

The diseases which I finally considered as chief possibilities were fungus disease, amebiasis and periarteritis nodosa. Malaria and viral conditions have been fairly well excluded by the previous laboratory studies and the clinical findings reported. Periarteritis nodosa is the one least likely to be the diagnosis. I have placed it last because this patient did not have the eosinophilia one usually finds, she did not have hypertension, nor did she have evidence of cardiovascular disease.

The next possibilities which I considered are uncommon infections such as toxoplasmosis, torulosis and histoplasmosis. Toxoplasmosis is quite an uncommon disease. It is more likely to occur in children, I believe, than it is in older people. It is, however, an acute febrile disease caused by the toxoplasma organism, which is a protozoan. It has an encephalitic phase as well as a pneumonic phase, and thus it might fit with this picture, since this lady supposedly had a pneumonia in the early course of her illness. However, in toxoplasmosis there are definite calcifications, usually in the brain, that show up in x-rays. Also usually present, is chorioretinitis, which she apparently did not have. Pulmonary findings toward the end of the disease, myocarditis and an enlarged spleen are all denied in the protocol. Finally, the diagnosis of that disease is made by the isolation of the organism from blood, spinal fluid, bone marrow or biopsy. None of these were reported.

The next possibility considered is cryptococcosis or torulosis, a fungus infection which affects the meninges and which may involve the lung, abdominal viscera, skin and joints. The causative agent is *Cryptococcus neoformans*, which has world-wide distribution. The symptoms of torulosis are usually those of chronic progressive meningitis with a fever, with a normal pulse but with very pronounced elevation of the leukocyte count in the cerebrospinal fluid. Most of the cells are monocytes. This case did not have an elevated cell count in the spinal fluid on several occasions. The diagnosis of torulosis is made finally by the finding of the organism in the body fluids or in culture.

A third infection, histoplasmosis, is a fungus infection which affects, primarily, the reticuloendothelial system. It is characterized at the onset by ulcerative lesions of the oral pharynx, the mouth, the throat and the upper respiratory tract and later, in the gastrointestinal system. It, too, is accompanied by enlargement of the spleen and liver in the latter part of the disease and by enlargement of the lymph nodes. In the protocol, none of these things were reported. Histoplasmosis usu-

ally has two clinical variants—one, severe and almost always fatal; the other, mild. The latter is the more common type and is most often noted by the x-ray man as small sharply defined calcific spots disseminated throughout the lungs. At one time these were thought to be due to healed miliary tuberculosis, but the present opinion is that they represent histoplasma infection which has healed. This

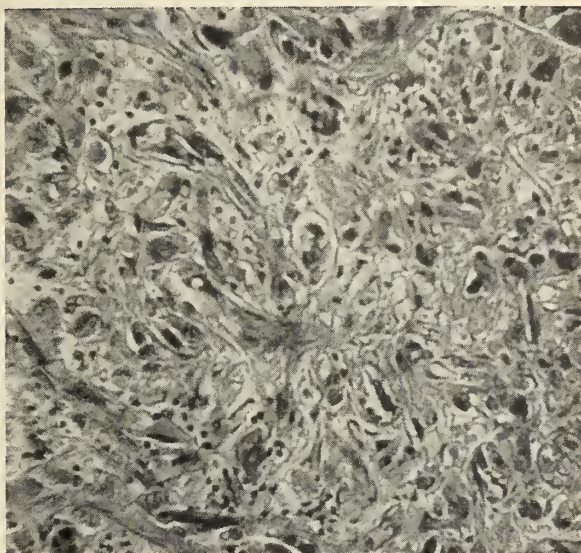


Fig. 2. Photomicrograph of carcinoma of left adrenal gland. The interlacing pattern is suggestive of sarcoma. Other areas, however, are typically carcinoma.

disease is characterized by fever, emaciation, leukopenia and anemia, all of which she eventually had. There is, however, the factor of lymphadenopathy which she did not have, and secondly, the gastrointestinal phase, which she apparently did not have either, since it was not reported. Any of these fungus infections can have generalized phases involving the meninges, the viscera, the liver, et cetera. None, however, wholly satisfy the requirements of diagnosis of our case.

That leaves amebiasis as the remaining possibility, and I present that as the likely diagnosis on these factors. In spite of the fact she had few intestinal symptoms, no diarrhea reported and little abdominal pain when she came to the hospital, she did have some abdominal distress, and this distress apparently was worse after she had been relieved of her gallbladder and appendix, a not uncommon finding in chronic amebic infection. Secondly, the disease progressed in spite of the obviously good care. She had a very thorough clinical work-up, I thought, and while penicillin was the only drug mentioned in the protocol, I am sure there must have been others given. A complication of amebiasis is hepatitis, which is demonstrated here, I think, by the pain and the tenderness over the liver, by jaundice and eventually by the meningo-encephalitic phase which I interpreted as the presence of an amebic abscess of the brain. The fact that she did not have a bac-



terial meningitis, I thought, was demonstrated by the numerous negative spinal-fluid tests.

Amebiasis is much more widespread than most of us are willing to appreciate. The literature indicates a 5 to 10 per cent incidence. In this case there were two stool tests reported, apparently for blood, but neither was reported as having been cultured or examined for ameba. Now there

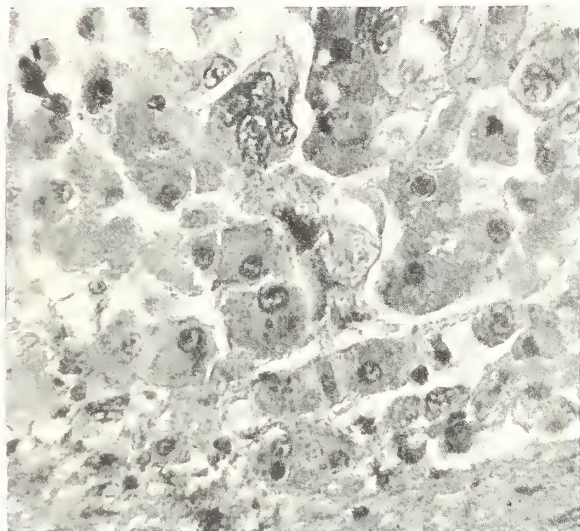


Fig. 3. Photomicrograph of carcinoma of left adrenal gland. Note tumor giant cells.

may or may not have been tests of that kind made, but at least they were not indicated. The disease may be fatal. Patients with amebiasis can go through the course of events reported here and the amebae would not have been affected in any way by the penicillin. Many cases of cryptogenic fevers, so-called, would benefit, I think, by a therapeutic trial of amebicides. You can do very little harm by a few injections of emetine and diodoquin, vioform or chloroquine by mouth. Frequently, an undiagnosed case such as this was, may prove to be a disseminated amebiasis. With that remark, I will turn the case back to Dr. Coleman with a tentative diagnosis of amebiasis and amebic abscess of the liver and brain.

Dr. John Hess, Jr.: I think this patient had a retroperitoneal tumor because of the edema of the feet early in the disease without any cardiac symptoms.

Dr. Lester D. Powell: Dr. Chambers mentioned the fact that there was the possibility of pyogenic abscesses in the liver which would not ordinarily be associated with a normal sedimentation rate and negative physical and x-ray findings. The symptoms of liver abscess may be vague, but I have seen many cases of liver abscess with joint involvement. This might not be the diagnosis, but it is not unlikely.

Dr. Charles H. Gutenkauf: I would like to propose periarteritis nodosa. This patient started out with pneumonia, then she had abdominal pain,

which occurs in about 60 per cent of the cases. She had leg pains due to peripheral neuritis. Edema is common. She finally winds up with central nervous system symptoms which are very common with periarteritis nodosa. The thing that is most suggestive to me is the absence of leukocytosis until terminally. The lack of eosinophilia does not rule it out. I still think the condition can be best explained by periarteritis nodosa.

Dr. Weston: We must also consider carcinoma of the brain. I think this liver is also the site of an old inflammatory reaction from the diseased gallbladder. It probably had something to do with her death but was not the cause of it.

Dr. Wm. J. Morrissey: Well, I pretty much agree with Dr. Chambers on the possibility of abscess in the liver and possibly one in the brain, and as to the cause of the abscesses, I think a low grade staphylococcal infection would be very likely; if there was not a low grade staphylococcal infection, then I think I would go back to the amebiasis.

Dr. L. O. Ely: I still think that retroperitoneal tumor that Dr. Hess suggested is the most likely possibility because of several things: (1) This patient's symptoms turn your attention to the abdomen; (2) She has something that spreads elsewhere and includes the brain. I feel that she probably had a retroperitoneal tumor with widespread metastases including the liver and the brain. This would also explain the edema on a perfectly mechanical basis. A retroperitoneal tumor will not uncommonly go along for a considerable period of time and show up long after the first symptoms of peripheral edema. I have seen two cases where the edema was unilateral. Dr. Womack used to say that until proved otherwise, unilateral edema was due to carcinoma. Because this woman had something in the abdomen which was not diagnosed and later showed up with edema and then later showed up with something in the brain, the most common thing you will run into with these types of symptoms is a tumor; so I think Dr. Hess was on the right track when he mentioned retroperitoneal tumor.

Dr. Chambers: There is one feature which I would like to mention, and that is the presence of the rheumatoid arthritis. It is a fact, but not widely known, that amebiasis can produce an arthritis which is hard to distinguish from rheumatoid arthritis. This patient developed the disease apparently late in life, which is uncommon in rheumatic disease but not unheard of in amebiasis.

Dr. Coleman: Thank you, Dr. Chambers. When this woman expired no one was more interested in doing the autopsy than I was, for we had seen this patient in consultation several times for examination of the sternal marrow and peripheral blood. We had not come to a diagnosis, nor had the attending physician come to a diagnosis. This case is not presented with the idea that anyone with certainty could establish the correct diag-



nosis prior to death. We do, however, want to present this case from the standpoint of reviewing the differential diagnosis in a patient with long continued fever.

#### SUMMARY OF NECROPSY FINDINGS

At autopsy, the body weighed approximately 160 pounds and measured 67.5 inches in length. External examination of the body revealed mild icterus and numerous ecchymotic areas over the trunk and extremities. When the peritoneal cavity was opened, the enlarged liver filled the upper portion of the peritoneal cavity. The liver weighed 2,100 Gm. and contained multiple, very poorly defined greyish-tan areas which varied in size from a few millimeters to 4.5 cm. in diameter. Some of these larger areas were very soft. The intervening liver tissue was light brown. These areas were not as discrete as typical metastatic tumor nodules usually are. They were most numerous in the right lobe, but there were some in the left lobe. They were deep in the substance of the liver as well as just beneath the capsule. The spleen was enlarged, weighing 300 Gm. The cut surface of the spleen was studded with poorly defined soft grey nodules 0.5 to 1 cm. in diameter. The left adrenal gland was approximately three times normal size, and its normal architecture was destroyed. The cortex and medulla had been replaced by soft, yellowish-grey tumor tissue. In some places small areas of cortical tissue remained as yellow flecks. Extensions outward into the periadrenal fat were present. The right adrenal gland was only slightly larger than normal, but soft yellowish-grey masses 3 to 5 mm. in diameter were noted in both the cortex and medulla. The lungs, likewise, contained multiple tumor nodules. These were most numerous in the outer portion of each lung and varied from 3 mm. to 1 cm. in diameter. The bronchi were carefully examined and no lesions were present. The left kidney was enlarged, weighing 300 Gm., and diffuse scarring of the outer surface of each kidney was present. Examination of the rest of the viscera, including the brain, revealed normal findings.

On finishing the autopsy, I knew this patient had had carcinomatosis, but I was not sure of the primary site. We reviewed the gallbladder sections from the surgical specimen and our original diagnosis was correct. After examining the slides of the organs obtained at autopsy, however, I came to the conclusion that this patient had a primary tumor of the left adrenal cortex with metastases to the right adrenal gland, liver, lung, kidney and spleen. Although extremely rare, this tumor does occur and usually produces very bizarre metastases. The following photomicrographs will illustrate the lesion. The tumor tissue in the left adrenal gland is made up of pleomorphic cells, some of which have an interlacing pattern resembling sarcoma; whereas, others are giant cells with one or two large nuclei. Small islands of adrenal cortical cells

remain. The photomicrograph of a metastatic nodule from the lungs reveals clear cells similar to those observed in renal cell carcinoma. The microphotograph of the liver reveals a very curious pattern. Tumor cells lie in the liver spaces between the liver cords so that tumor tissue and liver tissue intermingle. This accounts for the

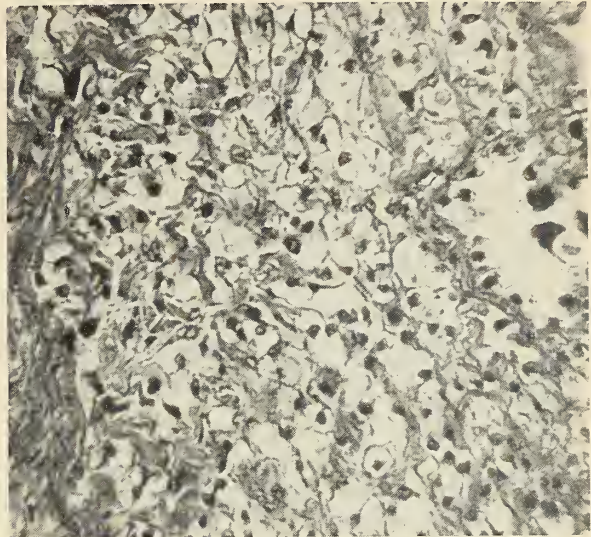


Fig. 4. Photomicrograph of metastatic nodule in lung. Note clear cell pattern.

bizarre gross appearance. The photomicrograph of the spleen illustrates tumor tissue similar to that observed in the left adrenal gland. The photomicrograph of the left kidney illustrates multiple miliary abscesses as well as numerous microscopic tumor nodules.

The final diagnosis is carcinoma of the left adrenal gland, liver, spleen, lung and kidney. Death probably resulted from a combination of liver failure, adrenal insufficiency and uremia. No adequate explanation for the central nervous symptoms could be found, unless they were on the basis of uremia.

I remind you again that this patient is presented not with the idea of making the correct diagnosis as to primary site of the carcinoma, but as an excellent example of unexplained fever due to visceral carcinomatosis. Carcinomatosis seems to be particularly associated with fever when the liver is involved. The measurement of the patient's temperature is probably the most common procedure that is performed in the hospital, and the temperature is taken to determine whether the patient has fever or not. It might be worthwhile, therefore, to review the principal causes of fever. These include inadequacy of the heat dissipation mechanism; brain injury, usually located either in the region of the third ventricle, internal capsule, medulla or spinal cord; drugs or chemicals; destruction of body cells with liberation of toxins; and toxins from pathogenic microorganisms.

I am sure that everyone of you has had a pa-



tient with prolonged fever, and you did not know what the cause of the fever was, and no matter how determined you were or how hard you looked you could not arrive at a diagnosis. By looking over this list I think you can see why it is frequently difficult to make a diagnosis in such a patient. These are the principal causes of obscure fever: (1) Specific infections which may be bacterial, viral, rickettsial, spirochetal, fungus or

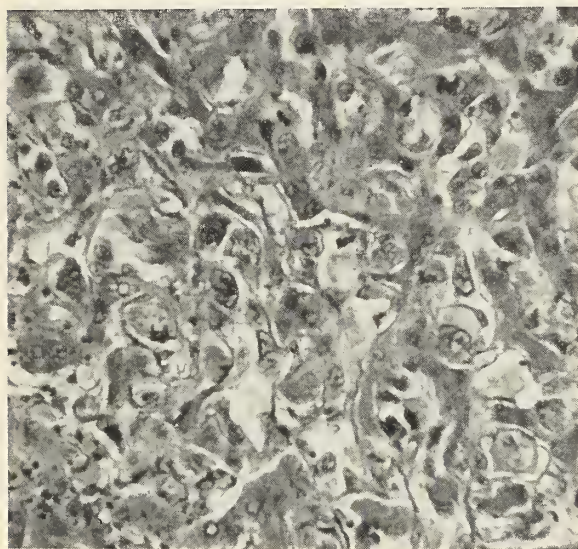


Fig. 5. Photomicrograph of metastatic lesion in the liver. Neoplastic cells lie between the liver cords.

parasitic, as in amebiasis. (2) Neoplasm, especially carcinomatosis with liver metastases. Those neoplasms which metastasize to the liver are the ones most commonly associated with low-grade fever. (3) Diseases of the blood-forming organs such as lymphomas and leukemias or hemolytic anemia. (4) Metabolic disorders—we are all acquainted with the fever that may be present in hyperthyroidism. (5) A miscellaneous group brought about by drug reactions, by psychogenic factors (these are particularly important in children) and by no perceptible cause, as is the case in low grade fevers during the early stages of pregnancy.

Lastly, a few things about fever in cancer. Really, no one knows why patients with cancer have fever, but a great many people have proposed theories. Raven and Hancock believe that pyrexia may be present in cancer when rapid metastatic involvement of liver is taking place with necrotic changes. Moore states that fever and leukocytosis in cancer of the liver are due to frequent necrosis of the tumor. Lintz believes that alteration of protein in body cells being crushed by rapidly growing tumor is responsible. In cancer of the stomach, fever is due to secondary infection according to Singer and Steigmann. Campbell believes that fever caused by cancer is due to anaphylaxis. And finally, Creevy states that fever is due to the abnormal products of neoplastic cell metabolism. Now, Dr. Irving, would

you like to make some remarks about the x-ray findings in this patient? And would you please state whether any other x-ray studies might have been helpful in establishing a diagnosis?

Dr. N. W. Irving, Jr.: The films are here and can be reviewed by anyone who wishes to do so. We saw no evidence of metastases up to the date the films were taken. Certainly, adrenal tumor was suspected neither by us nor by the various clinicians who saw the patient. The only additional thing that might have been done had a tumor been suspected would have been an air study. We did not try to visualize the adrenals. There is no displacement of the kidneys and no evidence of calcification above the kidneys. Other than that, I have nothing to offer.

Dr. Bernard C. Barnes: Dr. Coleman asked me to outline briefly for you a patient whom I have recently seen, and because the hour is late I will present the case very quickly. This patient was a man of 65 who came in with a history of long continued fever. He had been treated by his home physician symptomatically for some months before he developed epigastric pain. The pain, in itself, was not very severe. He was brought to the hospital, where a gastrointestinal series was performed. The gallbladder was normal. The liver profile study made by Dr. Coleman's laboratory indicated that he was suffering from some type of obstructive lesion involving the biliary tract. The man continued to go downhill and continued to run a fever. He had a leukocytosis of 20,000 to 30,000. His sedimentation rate was elevated and the remainder of his laboratory findings were essentially normal. It was thought because he was going downhill that an exploratory procedure was justified. At operation, a carcinoma of the liver was found, with metastatic lesions almost exactly like those described by Dr. Coleman. This resulted from a primary lesion in the pancreas. He continued to go downhill and died some two to three weeks after his exploration, but no autopsy was obtained. The case was of interest because of the long continued obscure fever, and I am sure that we will all be on the lookout for carcinoma as a cause of it in the future.

Dr. Coleman: Thank you Dr. Barnes. In closing, I would like to call your attention to an article in "G. P.", the publication of the American Academy of General Practice, Volume 1, Number 1 (April 1950), page 33, entitled "The Problem of Obscure Fever" by F. K. Albrecht. This is as complete an article on this subject as you will find. It is outlined in an excellent form, and if you have a case with obscure fever, it will be an excellent guide for you to use in working out the case.

Dr. J. M. Griffin: Mr. Chairman, in 1899, before we had x-rays, at the meeting of the Missouri Medical Association, in Sedalia, Missouri, there was a case presented of a carpenter who had had a fractured skull. This man worked regularly and

(Continued on page 345)



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
 RANSOM D. BERNARD, M.D., Business Manager....Des Moines  
 MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
 ALLAN G. FELTER, M.D.....Van Meter  
 DANIEL A. GLOMSET, M.D.....Des Moines  
 TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
 JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
 WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
 ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
 EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
 529-36th Street, Des Moines 12

Vol. XLIII

AUGUST, 1953

No. 8

## THE PHYSICIAN'S ROLE

In a recent address to the Canadian Medical Association, Dr. E. P. Scarlett, Chancellor of the University of Alberta, made some remarks, which were summarized in the *Des Moines Register* on July 1, 1953 and are deemed worthy of repetition.

It is a matter of the greatest importance, Dr. Scarlett declared, for the physician in the light of history to look at his situation with regard to society, to examine his relationship to the world, to governments, to his patient, and to his technical task. He must do this the more determinedly because contemporary society will give him little attention but rather will continue to impose restrictions and exact responsibilities without regard to the real values of the profession. Our relation to governments is worth noting. Traditionally medicine has had no direct and little indirect part in the sphere of government. It has therefore had to submit to having its duties levied as occasion arose with very little accompanying compensation of privilege or immunity, such as the "silk" of the law or the "cloth" of the clergy. Now when it has become an accepted proposition that medical care has a unique importance in social life, and society is insisting that the individual has a right to medical care in the same way as to education and police protection, our profession finds itself in a most vulnerable position, commanding little social prestige, and is the least privileged, the most exposed and the hardest worked group in society. In an age of social unrest and change the social implications of medicine are beginning to press upon us, and we can no longer isolate ourselves in the pathological lab-

oratory or the consulting room. Medicine must join with the social sciences, philosophy and the humanities in the defense of human values and in solving the many social and economic problems in our midst.

Dr. Scarlett feels that it is our duty first of all to express what we feel is necessary and not what we are told to express by the planning authorities. No one knows better what medicine means and involves than physicians. It is a disastrous departure from that knowledge for medicine to be parasitic for its ideas and its ideals upon the state, business or society at large. Such a dependence is a betrayal of our heritage and a sin against the holiest thing in medicine—the spirit of sympathy armed with understanding. Second, we must impose a discipline upon ourselves rather than surrender to those who point out that our profession has its sordid side, and that we have moral weaklings in our ranks. True, some individuals within our group have sometimes embarrassed us—but there is an infinite difference between maintaining a standard which is occasionally abandoned and affirming as the central truth of existence that there is no standard to maintain. The physician's standard has been slowly and painfully gained in the teeth of hostile forces. Every doctor knows what it is. It is our part as individuals and as a group to maintain that standard.

## INTERNSHIP

Two important changes in the operation of the internship program have taken place in the past few years. These changes were the result of the matching plan of intern appointments sponsored by the American Association of Medical Colleges and approved by the American Medical Association, and the new essentials for an approved internship as published by the Council on Medical Education and Hospitals of the American Medical Association and approved by the House of Delegates of the AMA in December, 1952 and June, 1953.

The matching plan has been the object of criticism throughout the country, as many people anticipated this program to create interns where interns do not exist. For all practical purposes there are two internships available for every intern in the United States. As a result there has been keen competition for interns, with all types of allurements emphasized. The direct result has been a decrease in emphasis upon intern teaching standards, raising of intern attraction programs, and oversupply of interns in some hospitals to the disadvantage of other institutions. The matching plan is an attempt to distribute the interns by requesting each hospital to set a quota. By processing the applications for internship and selection of interns by hospitals through a central agency, unfair recruitment programs theoretically can be eliminated. In 1952 almost 95 per cent

of medical students and most of the hospitals approved for internship participated in the plan.

The new essentials for internship are primarily designed to improve the teaching program for intern training. However, intern requirements have been made more stringent with the result that many hospitals are faced with losing their approved status. Until modification of the new essentials by the AMA House of Delegates in June, 1953, this danger was quite serious; by the elimination of the so-called "two-thirds rule" the danger is lessened somewhat but still remains. The complicating factor of the new essentials is that teaching may become emphasized to the point where the basic principle of caring for the patient is forgotten, and patient responsibility by the intern is not sufficiently accepted as a part of the internship. The conversion of an internship to an off-the-campus fifth year of medical school education may interpose a serious threat to one of the basic purposes of an internship, which is to instill in the intern the realization that patients are sick people trying to get well and not guinea pigs that can be exploited for teaching purposes.

The primary obligation of a physician is, foremost, the welfare of his patients. If this deep sense of personal responsibility of the physician to help his patient get well is not strongly instilled into the recent graduate during his internship, a doctor may be created whose only horizon of medical practice lies in impersonal institutional medicine. The philosophy of patient responsibility cannot be obtained during the under-graduate years, as patients during this period offer too great a scientific challenge and medical students are too far removed from actual patient care. It therefore remains for the internship to provide not only continuing education but also a philosophy which will and must continue to be a formidable barrier to the advance of socialistic ideas.

### THE NEED FOR REHABILITATION

Few realize the necessity for providing adequate funds for rehabilitation programs, until a review is made of the crippling which follows accidents which plague America's homes, highways and business establishments. The National Safety Council has recently released its 1952 edition of "Accident Facts." There is presented evidence to show that one injury occurs in the United States every three seconds. Accidents in which deaths and injuries occurred, together with occupational accidents, fires and motor vehicle accidents without injury cost the nation \$7.9 billion in the year 1951.

Grouped into various classes, the 1951 accidents were estimated as follows:

	Accidents	Permanent Impairments
Occupational .....	2,100,000	90,000
Home .....	4,200,000	110,000
Motor Vehicle .....	1,300,000	110,000
Public .....	1,900,000	45,000

During 1952, almost 12,000 persons were removed from the public assistance rolls through the State-Federal system of vocational rehabilitation for disabled civilians. These individuals had been receiving more than \$8.5 million a year in relief payments. It is high time to appreciate that more rehabilitation means less public assistance.

It is most gratifying to know that the Iowa State Medical Society is well aware of this problem. This year a special committee on Rehabilitation has been organized, and it will be its function to develop a program for rehabilitation throughout the state, correlating the work of the various agencies now working in this field. It should be possible to accomplish a means of assisting our crippled patients in Iowa to realize their desires to become self-supporting citizens again, regardless of the types of their physical handicaps.

### PHEOCHROMOCYTOMA

A recent monograph entitled "Pheochromocytoma and the General Practitioner" exemplifies a medical truism that after one investigates a certain condition, he finds that it is "much more common than had previously been suspected." Amazingly enough, the general practitioner who reads the book is caught with the same enthusiasm. He probably had the opinion before reading the book that pheochromocytoma is a rare adrenal tumor, but after reading the book he begins to think of certain cases which he "might have missed." Statistics quoted from the literature estimate that ten million people in the United States have the tumor, that the percentage of pheochromocytomas in "malignant hypertension" is two to three percent in some clinics. At the Mayo Clinic two percent of individuals having hypertension with vasomotor attacks have been found to have pheochromocytoma.

The authors conclude that "screening of all hypertensive patients for pheochromocytoma is now a diagnostic obligation for the general practitioner." Certain situations indicate an increased probability of the presence of this functioning tumor of the adrenal medulla. These manifestations are (1) Hypertension with associated symptoms, elevated metabolism, diabetes mellitus, precordial pain, tachycardia or palpitation. (2) Wide fluctuations in blood pressure, often in the normotensive range. (3) Refractory hyperthyroidism with hypertension. (4) Normal blood pressure, but paroxysmal episodes of hypertension or a history of "spells," whether known to be hypertensive or not, these attacks being accompanied by headache, palpitation, tachycardia or bradycardia, precordial or abdominal pain, flushing, nausea, vomiting, evidence of vasoconstriction of the extremities and profuse sweating. (5) Hypertension in children and young adults. (6) Hypertension in the early months of pregnancy, or hypertensive crises during delivery or post-partum. (7) Sudden loss of



vision or other ocular disturbances in a normotensive individual or one with moderate hypertension. (8) Hypertensive crises after minor trauma (an injection or diagnostic procedure). (9) Hypertensive crises during anesthesia or surgery.

The differential diagnosis of this adrenal tumor has been difficult prior to the advent of the new drug "Regitine." Other drugs such as "Benadaine," diabenamine, and histamine have been relatively unsatisfactory because of the high incidence of false-positives and negatives. Apparently the new drug, "Regitine," is simple and harmless, and the test may be given in the doctor's office or in the hospital without danger of untoward side effects. An article from the Mayo Clinic states that Regitine "is an excellent drug to use for screening test on all hypertensive patients to rule out pheochromocytoma." (Page 113).

The procedure is to have the patient rest until the blood pressure has become stabilized. After the basal level has been obtained, 5 mg. of Regitine is injected intramuscularly or intravenously. If the injection is by the intravenous route, the blood pressure is taken at thirty second intervals for three minutes and then every sixty seconds for an additional seven minutes. When it is injected intramuscularly, blood pressure determinations are taken at five minute intervals for thirty minutes. A typical positive response is a prompt, conspicuous fall in blood pressure exceeding 35 mm. systolic and 25 mm. diastolic. Usually the systolic drop approximates 60 mm. of mercury. When no pheochromocytoma is present, either there is no change, a slight rise, or a slight reduction in blood pressure. The only undesirable side effect has been a slight to moderate tachycardia. If the results of the test are equivocal, other drugs may be used in further tests. If the test is positive, the patient should be subjected to surgical exploration under carefully supervised conditions.

It is difficult, of course, to know how many cases we "average doctors" are missing, but after reading this book one is impressed with the fact that we perhaps ought to "look" more often than we do.

Pheochromocytoma and the General Practitioner, by J. L. DeCourcy and C. B. DeCourcy. (Cincinnati, the DeCourcy Clinic, 1952. \$4.00).

## NEWS NOTES

The American Goiter Assn. announces the Van Meter Prize competition for thyroid gland researchers. Papers not more than 3,000 words long must be submitted before January 15, 1954. The author of the best essay may read it at the Association's annual meeting, will have it published, and will receive \$300.

The 39th Annual Clinical Congress of the Amer-

ican College of Surgeons will be held in Chicago, October 5 to 9, 1953.

*The Crippled Child* magazine will henceforth be directed to parents of handicapped children, rather than to professional readers. Technical material, previously published in the magazine, will be printed in pamphlet form, and future issues of the magazine will carry announcements of those pamphlets.

An annual award of \$1,000 and lesser prizes have been established by the American Urological Assn. for essays on clinical or laboratory research by residents and beginning specialists in urology.

The South Dakota legislature has passed an annual registration law which takes effect on January 1, 1954. Physicians wishing to maintain South Dakota licenses must pay the \$2 fee to the Board of Medical Examiners, in Sioux Falls.

University Hospital, Iowa City, announces the following clinical conferences:

Pediatrics—Sept. 16-17. Fee: \$5.00.

Symposium on Acute Trauma and Fractures—Sept. 18-19. Fee: \$5.00.

Obstetrics and Gynecology—Oct. 2-3. Fee: \$10.00.

## Clinical Pathological Conference

(Continued from page 342)

appeared to be well, although his temperature would go up as high as 118 degrees. We had a special thermometer. This is a matter of record down in Missouri. I'll never forget it.

Dr. Coleman: Thank you Dr. Griffin. If I ever see a patient with a fever of 118 degrees, I'll never forget it either.

## BIBLIOGRAPHY

1. Albrecht, F. K.: The Problem of Obscure Fever, G. P. 1:33-42 (April) 1950.
2. Campbell, W. A., Jr.: The Cause of Fever in Carcinoma, Colorado Med. 28:62-66 (February) 1931.
3. Creevy, C. D.: Pyrexia in Malignant Nephroma (Hypernephroma), J.A.M.A. 92:1256-1260 (Apr. 13) 1929.
4. Geschickter, C. F.: Suprarenal Tumors, Am. J. Cancer 23:104-124 (January) 1935.
5. Lintz, Joseph: Fever in Malignancy, M. Clin. North America, 13:771-787 (November) 1929.
6. Moore, R. A.: Textbook of Pathology. Philadelphia, W. B. Saunders Company, 1944, p. 779.
7. Raven, R. W. and Hancock, P. E. T.: Cancer in General Practice. London, Butterworth and Company, Limited, 1952, p. 76.
8. Singer, H. A. and Steigmann, Frederick: Pyrexia in Gastric Carcinoma, Am. J. Digest. Dis. & Nutrition, 3:731-736 (December) 1936.
9. Wolf, H. L. and Jacobs, Sydney: Fever of Undetermined Origin, New Orleans M. & S. J., 99:441-447 (March) 1947.
10. Wu, S. D.: Carcinoma of the Adrenal Cortex, Chinese M. J. (Supp. 3) pp. 195-197 (March) 1940.

## *General Manager's Page*

### PUBLIC RELATIONS

I wish to call your attention to the summary of the proceedings of the Public Relations Committee as it appears in the July 15 News Bulletin.

This committee is enthusiastic in anticipation of making this the greatest Public Relations year the Society has ever had.

I urge your full cooperation.

*R. D. Bernard, m.d.*

*General Manager*



## President's Page

President Edward J. McCormick of the American Medical Association outlined a nine point program for the improvement of the Medical Care set-up for the nation, in his inaugural address. His proposals, with accompanying italicized notations upon the progress we have so far made in Iowa, are printed below. It would seem to me that we have been reasonably active in maintaining our own public relations.

1. The distribution of doctors is a problem. Much has been done by medical organizations to solve it. Placement services are now in existence in 37 states. Of these, 32 are operated by medical societies. It is important to the future of medicine that every community have access to a physician. Medicine must actively aid those communities which are trying to attract doctors.

2. Over 600 of our county medical societies now have 24-hour emergency call services. I urge all others to support such a system.

*We have already been at work with these projects as noted in Dr. Bernard's page in the July JOURNAL.*

3. Every medical society must have a strong and fearless mediation committee to hear patients' complaints. These must not be whitewash committees. They must be true to the purpose of their founding by reprimanding and disciplining physicians found guilty of exploiting their patients. Only in this way can public confidence in medicine be maintained.

*The degree of activity of our Grievance Committee has been considered by the Trustees and Public Relations Committee for several months, and at a meeting on July 12, the Public Relations Committee again considered the problem.*

4. Physician and hospital relationships must be clarified and steps taken toward mutual cooperation. I advise the formation of physician-hospital committees by state and county medical societies to work toward better relations in local communities. This has already been done with some success in some states.

*Not too much has been done about this problem. The Accreditation committee of the AMA is working on this, but we fear that in Iowa strife will*

*develop between specialists, general practitioners, hospital groups and others with the result that neither the public, the physicians, nor the hospitals will benefit.*

5. Every county society should become an active unit in the nationwide effort to develop and expand voluntary health insurance. We must find ways of providing protection against catastrophic illness and coverage of older age groups.

*The earnest efforts of all physicians are needed to solve this problem, and failure to cooperate will certainly produce catastrophe for us. I plan on saying something about this in the September JOURNAL.*

6. Too many physicians have been isolationists within their communities. Local societies should encourage each individual member to participate in some civic undertaking. We physicians should be rendering health leadership in all service clubs, fraternal organizations, parent-teacher groups, church associations and unions.

*We have never made much in the way of organized effort along this line. Certain doctors have been interested in various groups, but it has been their own initiative which has carried them forward.*

7. Every doctor must be brought to realize that good public relations begins in his or her office—that the way in which they treat patients reflects for good or ill on the entire profession. Medical societies are frequently hampered in their efforts to build public understanding by the doctor who overcharges, the doctor who rudely refuses to answer a night call no matter how urgent, or the doctor who keeps patients waiting for hours in the reception room without any explanation.

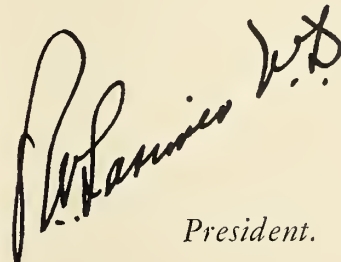
*This is just good business sense.*

8. There are some newspaper and radio people who honestly believe some of the untruthful charges which have been made against medicine. All county and state societies should make continued efforts to develop a close association with writers for press, radio and television.

*This project is three years old in our Society. We are among the first to work along these lines.*

9. There is a need for unity within the profession. I have noticed a distressing regression toward petty internal wrangling, charges and countercharges, and divisive activities by various groups within the profession.

*This must be self-evident to every physician.*



President.

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Chairman of Press and Publicity Committee*, Dexter, Iowa

*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*President-Elect*—MRS. LESTER R. HEGG, Rock Valley

*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines

*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

## PRESIDENT'S REPORT

The Woman's Auxiliary to the AMA held its thirtieth annual meeting in the Statler Hotel, New York City, June first to fifth.

It has been a year of growth and accomplishment. The record is inspiring. What so few women can do with so little! More of them should be in Washington.

Every auxiliary member who contributed to this fine record through committee work or who helped merely by being a member and paying her dues should feel a thrill of pride. Every doctor should be proud too. For this record is like an arrow pointing to the heart of the difficulties which beset the medical profession today; it is a record of service by doctors' wives to their own communities large and small and of loans and gifts to girls who want to become nurses. Approximately \$57,000.00 has been contributed to the Nurse Loan Fund, \$42,000.00 was contributed to other organizations and \$32,000.00 was given to the medical schools of our country. Total contributions are well over \$131,000.00.

A part of the above contribution was in the form of small gifts to the auxiliary, but the greater share of it came from you and you and you—your dues to county, state and national: one dollar to national, two dollars to state and your own optional county dues.

This is a small thing to you—amounting to about four or five dollars a year. But the fund grows when each one does her part, and the resultant by-product, which is good public relations, radiates like a halo. If any rubs off on the doctors, "we didn't do a thing."

Nor does the monetary miracle tell the complete story; it does not tell of the personal services given by doctors' wives as volunteer workers in hospitals and bloodmobiles, aid to the handicapped, promoting the sale of *Today's Health* magazine, serving as leaders of health projects; hundreds of hours have been given, cheerfully, to these and other worthy projects.

Being adequately informed remains, as always, high on the list of things for the individual auxiliary member to do—keeping informed on current legislation or treaties which would affect, adversely, the American people and further curtail their freedoms.

You will be happy to know that Mrs. Leo Schaefer, of Salina, Kansas, is our national president, and Mrs. George Turner, of El Paso, Texas, is the new president-elect. Both have many friends in Iowa.

MRS. EDWARD B. HOEVEN

---

## THE NATIONAL AUXILIARY MEETING

It is impossible to describe adequately the real live experiences one enjoys at an Annual National Auxiliary Meeting. The greatest difficulty is trying to choose what to do at a given time when so many important events are taking place simultaneously.

Each Auxiliary session was packed with interesting and valuable information for every doctor's wife. I enjoyed the two luncheons, the tea and Annual Dinner. New friendships were formed and old friendships renewed.

There were outstanding leaders from the National Auxiliary and from every state auxiliary that participated in the program. At the Public Relations Panel discussion, I was impressed with the following facts and accomplishments.

Public Relations consist in:

1. Being informed.
2. Having contacts with other organizations.
3. Using these contacts.
4. Serving. Serving a just cause not only rewards the worker, but is its own reward.

New York and Pennsylvania Auxiliaries have accomplished an excellent job in promoting health education in the public schools by conducting Health Poster Contests. A student nurse in Pennsylvania was the winner of the state-wide contest. Fifty thousand posters were submitted.

In one state, a small county auxiliary successfully conducts a loan closet. It is useful and popular.

The two press meetings which were held in North Dakota last year promoted good public relations with the press.

The Colorado Auxiliary, in cooperation with the highway patrol, conducted a fine Safety Program in the schools last year.

The thought that Civil Defense is here to stay was emphasized. Children should be educated in our atomic age regarding Civil Defense.

Dr. Kenneth McFarland, Educational Director,



American Trucking Association, Inc., gave a fine address entitled "Fathoming the Fifties." He said, "The trouble with too many Americans is that they stand frozen in their tracks for the things in which they believe. Americans need educated hearts."

To acquire an educated heart, four things are necessary:

1. An honest, sincere respect for the dignity of human personality.

2. A clearer understanding of the difference between happiness and fun.

3. An enthusiasm for the things in which we believe.

4. A belief in an infinite power and in enduring honor and honesty.

He said, also, "Courtesy and good manners are what you are. One must peddle papers before getting on the front page. Seek the reward, not the goal."

Watch for full reports of the convention in "The Bulletin."

Mrs. Quayle, National Legislative Chairman, said, "It was up to you in '52, and you certainly came through." We still have work to do. Read, study, and keep informed by reading the Washington Letter, the AMA Journal and our State Medical Journal concerning national and state legislation.

MRS. HOWARD W. SMITH

*Delegate to the National Auxiliary Meeting*

### COFFEE TIME IN APPANOOSE

Whenever coffee time is mentioned, the average American man or woman feels a certain glow of anticipation. There seems to be an atmosphere about coffee time that encourages informal discussion and free exchange of ideas. We become relaxed from daily routine and are stimulated to attempt bigger and better things.

Coffee time may mean a few stolen minutes at the corner drug store; it may mean that golden hour after dinner when the guests are fed and nothing urgent is expected of the hostess. It may mean a few minutes in the morning when the neighbor drops in, or it could mean the time when the Appanoose County Medical Auxiliary holds its discussions, because it is too small to attempt an ambitious program.

The value of the small Auxiliary has often been questioned. Is such an organization justified? The common pitfall of community work is dissipation of energy because of engagement in too many activities. We must spend our energy wisely. We must decide where time and energy will do the most good, both for ourselves and for the community.

In the past, some of the doctors felt that the Auxiliary was just a nice wholesome outlet for the wives. It did no harm and perhaps a little good. Now we know that it should be a matter for personal concern that women are capable of

organizing material, can consider problems rationally and do help to form sound conclusions in health fields.

It is paradoxical that in crowded communities today, women sometimes feel more isolated than did their grandmothers. Whether there is little or much housework to be done, today the modern woman does it alone. Grandma always used to have someone else to hand the dust rag or stirring spoon to if an emergency arose. There can be times when the undiluted companionship of the family is not the most satisfying. Irwin Edman has said, "The test of civilization is or should be the quality of our leisure."

Husband and wife teams are successful in all types of business. As wives of doctors in small communities, we are associated more or less with the business. Whether it be phone duty or emergency help, we cannot afford to be poorly informed on trends in medicine. Close association with our State organization can keep us informed.

The doctor's wife in the small community is better known than are wives in larger communities. This fact increases her influence. Whether her influence is constructive or destructive depends upon herself. It is generally accepted that in rural areas there are more individuals per doctor than in areas of greater concentration, so the rural doctor and his wife have the opportunity of influencing and guiding the health projects of more people. Since we are better known, more people come to us readily with their problems.

Standards have risen—standards of individual happiness, child care, and even of Medical Auxiliaries. Let us accept the slogan "The Obligation Is Ours" and interest and inform our members and make a greater effort to spread authentic information among ourselves and among laymen.

MRS. ELMER A. LARSEN

### SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a. m.

#### FAIR AND COOLER

August 6.....Hay Fever

#### THE STORY OF SURGERY

August 13.....

.....Surgical Progress Since the Middle Ages

August 20.....The Making of a Surgeon

August 27.....Surgery of the Appendix

WSUI—Tuesday at 11:45 a. m.

#### HI-FORUM

August 4.....Out-of-School Jobs

August 11.....Big and Beautiful

August 18.....Choose Your Partner

August 25.....First Offender

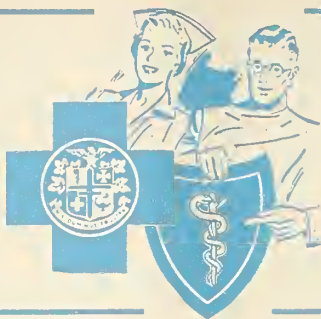
Television broadcasts will be resumed in the fall.

#### CORRECTION

Dr. Callistus H. Stark of Cedar Rapids who spoke at the Annual Meeting of the Woman's Auxiliary in Des Moines was mistakenly referred to as Dr. Clark. We apologize.



# BLUE CROSS



# BLUE SHIELD



When a Blue Shield member requests consideration for full service, it is his or her responsibility to provide proof of income for the 12-month period immediately preceding the date of surgery or in-hospital medical care.

## BLUE SHIELD MONTHLY STATISTICS

July 1, 1953

Blue Shield members .....	445,218
Claims processed for payment .....	9,956
Amount Paid in Claims .....	\$324,550.40

## BLUE SHIELD—INCOME LIMITS

- A. Single—\$2,400—Unmarried subscriber.
  - B. Two Person—\$3,000—Subscriber and spouse, or subscriber and dependent child.
  - C. Family—\$3,600—Subscriber, spouse, and unmarried dependent children, age 10 days to 19 years.
- A Blue Shield subscriber possessing a Single, Two Person, or Family certificate and whose an-

nual income in the 12-months period preceding the date of service is less than the above stipulated limits is entitled to full service consideration if the services are rendered by a participating physician. This provision applies only to those benefits provided in the subscriber's contract.

As a general rule, gross income should be the amount presented to a physician as proof of income. In most cases, the joint Federal Income Tax return should represent sufficient evidence to establish eligibility for full service consideration.

Blue Shield has a staff of field men who are available to assist physicians with problems encountered in establishing full service eligibility. A note to the Blue Shield Physician Relations Department will bring a field man to a physician's office within a reasonable period of time.



---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

MODERN CONCEPTS IN MEDICINE, by *Julius Jensen*, Ph.D. (in medicine). (St. Louis, The C. V. Mosby Company, 1953. \$11.50.)

THE SURGERY OF INFANCY AND CHILDHOOD; ITS PRINCIPLES AND TECHNIQUES, by *Robert E. Gross*, M.D., with 1488 illustrations on 567 figures. Drawings by *Etta Piotti*. (Philadelphia, The W. B. Saunders Company, 1953. \$16.00.)

SURGERY OF THE PANCREAS, by *Richard B. Cattell*, M.D., and *Kenneth W. Warren*, M.D. (Philadelphia, The W. B. Saunders Company, 1953. \$10.00.)

ST. THOMAS'S REPORTS, Second Series, Vol. VIII. (London, St. Thomas's Hospital, 1952. 10/6.)

## BOOK REVIEWS

Additional Book Reviews on page 352

ELECTROCARDIOGRAPHY IN PRACTICE, by *Ashton Graybiel*, M.D., *Paul D. White*, M.D., *Louise Wheeler*, A.M. and *Conger Williams*, M.D. (Philadelphia, W. B. Saunders Co., 1952. \$10.00.)

Long a classic reference work, Graybiel and White's atlas of electrocardiography appears in this, its third edition, entirely re-written and in a new format.

One of the new features is an account of the evolution of the physical and physiologic concepts of electrocardiography, based upon scientific observations dating back to 1790. Looking ahead as well as backward, there is an appraisal of the current attempts to apply vectorcardiography to clinical practice.

As in previous editions, the last section of this volume is devoted to "unknowns," a group of electrocardiograms upon which the reader may sharpen his diagnostic acumen.

The third edition represents a vastly improved and useful volume, both in form and content. The 294 illustrations are of unusually good quality.—*Herman J. Smith*, M.D.

---

CORRELATIVE NEUROANATOMY AND FUNCTIONAL NEUROLOGY, by *Joseph J. McDonald*, M.D., and *Joseph G. Chusid*, M.D. (Lange Medical Publications, University Medical Publishers, Los Altos, California, 1952. \$4.00).

The authors, a neurosurgeon and a neurologist of New York City, dedicate the sixth edition of this manual to the beginner in neurology. Their aim is to present, simply and clearly, those features of the anatomy and physiology of the nervous system which bear upon the problems of clinical neurology. The concise outline format is employed, supplemented by additional charts, diagrams, and illustrations.

The work is divided into sections on the anatomy and physiology of the central nervous system (50 pages), the peripheral nerves (89 pages), principles of neurodiagnosis (45 pages), disorders of the central nervous system (53 pages), and an appendix (14

pages). The extra space devoted to the section on the peripheral nerves is due to the inclusion of the cranial nerves and many full-page diagrams of individual nerve distribution.

The presentation is didactic, condensed, and lacking in literary style, all of which makes for difficult reading. The distribution of material and emphasis is uneven, with minor sins of commission and omission resulting. For the most part, the material is reliably recorded, and easily accessible in this outline form.

It is difficult to know what place this text will occupy on the medical book-shelf. It cannot replace standard volumes on neuroanatomy, neurophysiology, or clinical neurology, nor can it be recommended for easy reading. On the other hand, the fact that this is the sixth edition issued since 1938, testifies that this type of treatment of the subject has found favor over the years. Its greatest appeal is most likely to the medical student and early resident in neurology. Because of the paper backing and loose-leaf type of binding, the cost is reasonable, and may make the manual more attractive to those who would like a limited type of neurologic reference volume in their library.—*Walter D. Abbott*, M.D.

---

THE 1952 YEAR BOOK OF ENDOCRINOLOGY, by *Gilbert S. Gordan*, Ph.D. (Chicago, The Year Book Publishers, 1952. \$5.50.)

This is another of the well-known Year Book series which can be profitably perused by the busy physician to keep abreast of the literature. In recent years there have been so many articles written concerning the glands of internal secretion that an abstracting service of this type is particularly useful to those who need information on the subject.

The editor presents in an orderly fashion his review of the literature, involving first the pituitary, then the thyroid, and so on down through each endocrine gland of the body. Cortisone and ACTH are treated in a separate chapter, which is preceded by a concise summary of the related chemistry and physiology. Another separate chapter covers the hormonal treatment of advanced mammary cancer and prostatic cancer, with a down-to-earth preliminary discussion by the editor.—*Arthur G. Lueck*, M.D.

---

THE PHYSICIAN IN ATOMIC DEFENSE, by *Thad. P. Sears*, M.D. (Chicago, The Year Book Publishers, 1953. \$6).

The Author has entered one of the newer fields of medicine, and produced a text dealing with atomic principles, biologic reaction and the essentials for medical defense. This book is recommended reading for all physicians, and especially for those who will be required to take an active part in the civil defense of their home communities. All chapters have been supplemented with a good bibliography.—*E. M. George*, M.D.

## BOOK REVIEWS

Additional Book Reviews on page 351

THE EPIDEMIOLOGY OF HEALTH, edited by Iago Gladston, M.D. (New York & Minneapolis, The Health Education Council, 1953. \$4.)

This is a delightfully written sketch of the notions of primitive, medieval and modern man about the cause and prevention of disease. It describes present-day public health thinking and practice, and attempts to project us into the future. Health is considered to be more than the mere absence of disease—it implies physical and social effectiveness and full enjoyment of life as well. Immunization, better nutrition, hygienic practices, periodic physical examinations, rehabilitation of the aged and ailing, and better rearing of children to enable them to cope effectively with the stresses and strains of modern life are means to the end of making life fuller and richer for all men. The section on mental health is especially worth reading, in that it defines mental health and outlines those measures which promote it. The book is full of philosophical nuggets.—Charles H. Gutenkauf, M.D.

OPHTHALMIC PATHOLOGY: AN ATLAS AND TEXTBOOK, by Jonas S. Friedenwald, Helenor Campbell Wilder, A. Edward Maumenee, T. E. Saunders, John E. L. Keyes, Michael J. Hogan, and W. C. and Ella U. Owens, (W. B. Saunders, Philadelphia, 1952. \$18).

This book was published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and The Armed Forces Institute of Pathology. It is based on *The Atlas of Ophthalmic Pathology* previously published by the Armed Forces Institute of Pathology. Every possible change of the eyes and orbit is covered in great detail and each chapter contains a number of photomicrographs illustrating the subject matter covered in the chapter.

The illustrations are excellent, and the only thing that this reviewer regrets is that the description of the photographs is very scant and one has to look back in the text for more information.

The book starts with an excellent chapter on "Anatomical and Physiological Considerations." Throughout the volume reference is made to normal and pathologic physiology as a basis for pathological changes. In this respect the chapter on "Intra-ocular Fluid Circulation," which precedes a description of glaucomatous changes is especially interesting.

Another outstanding chapter is that on the "Nature and Mechanisms of Inflammation," in which the latest concepts of allergic and immunologic tissue reactions are expounded.

To anybody interested in improving his understanding of pathological changes this book can be highly recommended.—H. H. Gurau, M.D.

SPATIAL VECTORCARDIOGRAPHY, by Arthur Grisham, M.D., and Leonard Scherlis, M.D. (Philadelphia, W. B. Saunders Company, 1952. \$6.00).

Utilizing Einthoven's equilateral triangle, Grisham and Scherlis have built their system upon a cube arrangement. They emphasize that each electrode must be sufficiently distant from the dipole center, E, for

the exploration of its field. They believe simultaneous presentation of the cardiac vectors in the three planes (frontal, horizontal and saggital) facilitates spatial orientation. In their opinion, the vector is instantaneous. They stress the point that it represents the resultant of all of the forces of the heart acting at a particular moment. An instant later, a wave of accession spreads to different areas of the myocardium, and a new instantaneous vector representing all of the forces of the heart then occupies a different spatial position, with a different magnitude, and this process continues throughout the cardiac cycle. Each spatial vectorcardiogram consists of three loops.

The authors have reiterated frequently that it is fundamental in the application of spatial vectorcardiography to realize that it is a projection of the total resultant electromotive forces which are recorded by any one lead. At times, the instantaneous vector points toward the recording electrode, and at other times, no vector is subject to any specific anatomic base. It is their belief that the spatial vectorcardiogram will eliminate many of the routine and highly specialized leads of scalar electrocardiography, for, they say, the three planes represent different views of the total resultant electromotive forces of the heart. From these projections they contend it is possible to predict the configuration of the routine electrocardiogram as recorded by all leads, in their variety of different positions.

Grisham and Scherlis report that the spatial vectorcardiogram gives diagnostic evidence of acute coronary insufficiency and angina pectoris in patients whom electrocardiograms show to be normal. They have presented many cases of ventricular hypertrophy with a QRS time interval of between .14 and .16 seconds and have also exhibited bundle branch block patients with a QRS time interval of .11 seconds. This hypothesis will probably create violent argument, for electrocardiographers rely almost entirely upon the QRS time interval in differentiating bundle branch conduction defects from ventricular hypertrophy. The authors are unable to give specific vectorcardiographic criteria for the diagnosis of myocardial infarction in the presence of left bundle branch block, and, indeed, this differentiation has never been possible. But they are confident that continued case study with autopsy confirmation will enable them to diagnose that deformity too.

The abnormal alternations occurring in repolarization in patients with coronary sclerosis (with myocardial damage because of intermittent anoxia) is usually more easily discernible than the abnormal variants occurring during depolarization. They believe that the changes in the spatial vectorcardiogram furnish more evidence of minimal myocardial damage than is revealed by the electrocardiographic technic.

I believe this is the most interesting vectorcardiographic monograph I have ever reviewed. It is apparent from the authors' work that the spatial vectorcardiogram will furnish us more information than is obtainable from the routine scalar electrocardiogram, that it will improve our knowledge of cardiac physiology and that it will enhance our differentiation between the normal heart and any phase of the abnormal one.—G. H. Finch, M.D.



---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## PROGRAM

### ANNUAL MEETING

September 24-25, 1953

Hotel Savery

Des Moines, Iowa

THURSDAY—SEPTEMBER 24

10:00—12:00 **Symposium—Peripheral Vascular Disease**

Maurice T. Bates, M.D., Surgeon,  
Des Moines, Iowa  
Emmet T. Scales, M.D., Internist,  
Des Moines, Iowa

12:15 p.m. Luncheon

Speakers:

Charles E. Hovey  
Representing AAGP Group Insurance Plan  
E. B. Dressler  
American Academy of General Practice

2:00 p.m. **Address**

Norman B. Nelson, M.D., Dean, College of Medicine, University of Iowa, Iowa City, Iowa

3:30 p.m. **Annual Meeting (Election of Officers)**

Iowa Academy of General Practice

6:30 p.m. Reception and Cocktail Hour

7:30 p.m. Banquet and Entertainment

FRIDAY—SEPTEMBER 25

10:00—12:00 **Symposium—Peptic Ulcer**

Faculty of the Medical College, University of Minnesota

Participants:

F. John Lewis, M.D., Associate Professor, Department of Surgery  
James Myhre, M.D., Clinical Assistant Professor, Department of Medicine

C. K. Aldrich, M.D., Associate Professor, Department of Psychiatry

C. M. Nice, M.D., Assistant Professor, Department of Radiology

12:15 p.m. Luncheon

Speaker—"Life Insurance Examinations"

F. Tulley Hallam, M.D., Medical Director, Bankers Life Co., Des Moines

2:00 p.m. **Symposium on Peptic Ulcer Continued**

Question Period

---

## HOTEL RESERVATIONS

A block of rooms has been set aside at Hotel Savery to accommodate the doctors and their wives who will attend our annual meeting. Those doctors planning to attend and desiring rooms should write directly to Hotel Savery, Des Moines. State that you are attending the meeting of the Iowa Academy of General Practice and make your reservations with the hotel. Please tend to this as soon as possible.

---

## MEETINGS ALLOWED FORMAL CREDIT

The Commission on Education announces that credit on formal post-graduate requirements will be allowed as follows:

1. Pottawattamie County on May 25, 1953—one hour.

2. Cass County on May 6, 1953—four hours.

3. Sioux Valley Medical Society—clock hours of actual attendance up to ten hours.

Any medical organization presenting a meeting which is thought to meet our formal post-graduate requirements would serve its own interest and that of the Academy of General Practice by writing to Dr. Donald H. Kast, 720 Bankers Trust Building, Des Moines, informing him of the meeting and sending him a copy of the program for his consideration.

# STATE DEPARTMENT OF HEALTH

*Edmund G. Zimmerman*  
COMMISSIONER

## JUNE 30, 1953, TYPHOID CARRIER SUMMARY

The present typhoid carrier survey and supervision program was activated in Iowa in 1949. At that time office records showed definite information regarding 131 persons that permitted placing their names on a typhoid carrier list. Since the status of many of the persons on this list was not known, a visiting program was begun that year with the findings listed under the 1950 column below. Current status as of June 30 is shown under the 1953 column. Both 1952 and 1953 columns are shown on a cumulative basis. For example, our 1953 listing shows 31 carriers' names have at some time since 1950 been removed after negative culture series have been obtained following cholecystectomy. Twenty such names were removed on the completion of the check in 1950, three between 1950-1952, and eight in 1953.

	1950	1952	1953
1. Number of active carriers.....	131	77	71
2. Number on freed carrier list by:			
Cholecystectomy .....	20	23	31
Deceased .....	25	36	39
Moved out of state..... (Reciprocal notice sent)	7	7	10
3. Carriers remaining positive or doubtful after cholecystectomy .....	1	4	6
4. Carriers not located.....	8	8	7
5. Questionable carrier state.....	0	3	5
6. Number of carriers thought to be sources of other cases .....	68	75	88
7. Number of cases attributed to these carriers	378	382	392
8. Deaths attributed to these carriers.....	21	21	21
9. Number of living carriers who have signed typhoid carrier acknowledgments since the program was reorganized in 1950.....	—	—	44

After four years of work with this type of supervisory program, we are convinced that most of the inherent difficulties can be corrected. The patient, with proper instructions from the physicians and the Public Health Nurse, can be made to understand his responsibility as a typhoid carrier without being made to feel that he is a criminal. He can be taught his responsibilities as a typhoid carrier, particularly in conforming with the agreement he has signed. Again, he can be impressed with the fact that at any time he goes to a doctor who does not know his past history, it is his responsibility to tell him that he is a typhoid carrier. He should give the same information when being admitted to any hospital or nursing home, or when receiving nursing care in his own home. We also find much difficulty is met because the typhoid carrier is not impressed

with the necessity of giving a new address when he moves, either within the state or out of the state, to the local Public Health Nurse or to the Iowa State Department of Health. Records in both places are held in confidence.

Since every case must have a source of infection, one might hope to find a carrier source for every new case. Investigation methods do not yield results like that. However, in 1951, with 31 authenticated cases of typhoid, six carrier sources were definitely established, and in 1952 from 28 cases, five sources were found.

To June 30 of this year 11 typhoid cases have been reported.

## MORBIDITY REPORT

Disease	June 1953	May 1953	June 1952	Most From	Cases These	Reported Counties
Diphtheria .....	0	3	1			
Scarlet Fever ..	38	212	23			Johnson, Polk
Typhoid Fever ..	2	5*	3			Wapello, Webster
Smallpox .....	0	0	0			
Measles .....	1620	3135	693			Clinton, Polk, Pottawattamie, Story
Whooping Cough ..	9	13	14			Polk 4, others scattered
Brucellosis .....	35	22	45			Benton, Dubuque 3 each, others scattered 2 or 1 to a county
Chickenpox .....	361	811	161			Dubuque, Linn, Pottawattamie
Meningitis men. .	1	4	4			Osceola county
Mumps .....	510	814	88			Dubuque, Linn, Pottawattamie
Poliomyelitis .	21	14	45			Scattered 2 or 1 to a county: 8 paralytic, 7 non-paralytic, 6 unspecified
Rabies in Animals	17	20	43			Sac 3, others scattered 1 to a county
Infectious Hepatitis .....	134	315	1			Clinton, Polk, Pottawattamie
Tuberculosis ..	41	143	47			For the state
Gonorrhea .....	59	83	31			For the state
Syphilis .....	176	197	72			For the state

\* para

## INDICATIONS FOR ANTI-RABIES TREATMENT

In an editorial in the *Journal of the American Medical Association*,<sup>1</sup> discussing the indications for anti-rabies vaccine (Pasteur) treatment for persons who have been exposed to the bite or saliva of a rabid animal, the following statement is made:

"The exact incidence of these post vaccinal reactions is not known, but a significant number of neuromuscular sequelae, including some fatalities, do occur. Thus in deciding whether to administer



anti-rabies vaccine the physician must balance the risk of potential serious post-vaccinal reaction against the possibility of the development of rabies.

"Indications for vaccine treatment in cases of animal bites were considered by the first session of the WHO Expert Committee on Rabies, held in April, 1950. The committee published detailed indications for the use of vaccine that are designed to avoid, as much as possible, indiscriminate use of the Pasteur treatment. Use of the Pasteur treatment was favored only in cases of bites and licks of uncaptured wild, or rabid animals and in cases of multiple bites of the head, neck and shoulders. Similar conservatism has been advocated by Sellers, who considers anti-rabic treatment contraindicated in the following circumstances: (1) When there is no broken skin anywhere on the body, including face or mouth; (2) If previous wounds are known to be 24 hours old or are covered with an unbroken scab; (3) If the tooth wounds were made through untorn clothing (such wounds are usually bruises); (4) If exposure is limited to handling only the dog or objects contaminated with the saliva, or to drinking the milk of rabid cows or goats; (5) If the wounds were inflicted not less than seven days prior to

detection of visible signs of the disease; and (6) If the animal remains normal for as long as seven days after inflicting the wounds. Reimmunization should be avoided for borderline exposure regardless of the time elapsed since the last treatment, according to Sellers. He recommends that re-treatment be limited in any case to a short booster series of five or six injections."

In regard to persons who have been treated with vaccine and subsequently re-exposed, the WHO report states no additional treatment is necessary if the re-exposure occurs within three months of the first treatment, unless the second exposure is of a severe type. It also states that if the interval is between three and six months, two reinforcing doses of vaccine, one week apart, are indicated, whereas if more than six months have elapsed, the treatment should be on the same basis as if it were an original exposure.

In Iowa since January 1, 1940, two persons have died of rabies, and during the same period three persons have died of anti-rabies treatment.

1. Editorial, J.A.M.A., 149:1318-19 (August 2) 1952.
2. Expert Committee on Rabies: Report on the First Session, World Health Organization Technical Report Series No. 28:3-17 (November) 1950.

(Continued on page 358)

NATURE OF EXPOSURE	CONDITION OF BITING ANIMAL		DECISION AS TO VACCINE TREATMENT AT TIME OF POSSIBLE EXPOSURE
	At time of Exposure	During observation period	
I. No Lesions; indirect contact only	healthy or rabid	healthy or rabid	none
II. Licks:			
(1) unabraded skin	healthy or rabid	healthy or rabid	none
(2) abraded skin or mucosa	(a) healthy	healthy	none
	(b) healthy	clinically suspicious or proven rabid	start treatment at appearance of first suspicious signs
	(c) suspicious	healthy	start treatment immediately; stop treatment if animal remains normal for 3 days
	(d) animal rabid, escaped, killed, or unknown		start treatment immediately
III. Bites:	(a) healthy	healthy	no treatment, except if bites are multiple, or face, head or neck bites then treat as in III (c)
	(b) healthy	clinically suspicious or proven rabid	start treatment at appearance of first suspicious signs.
	(c) suspicious	healthy	start treatment immediately; stop treatment if animal remains normal for 3 days
	(d) animal rabid, escaped, killed or unknown, or any bites by jackal, fox, wolf, or other wild animal.		start treatment immediately.

Note: Bites on the head, neck, and shoulders, deep multiple wounds, and those inflicted by wild animals involve a greater degree of risk, and patients should be treated accordingly.

---

# SOCIETY PROCEEDINGS

---

## COUNTY SOCIETY PROCEEDINGS

At the meeting of the Montgomery County Medical Society held in Red Oak on June 17, the speakers were Dr. John Randall and Dr. Carroll Larson, of University Hospitals, Dr. Fred Kittle, of Kansas University, and Dr. L. R. Moriarty, of Kansas City. Physicians from Council Bluffs, Atlantic, Clarinda, Creston and Red Oak attended.

The staff of the Knoxville Veterans' Hospital were hosts to the Marion County Medical Society and the Iowa Trudeau Society on Wednesday evening, June 17. Dr. Henry W. Walters, of Fort Snelling, Minnesota, section chief in tuberculosis for the V.A., spoke on "Newer Concepts in the Management of Tuberculosis."

Dr. Ralph Heeren, chief of the Division of Communicable Diseases of the State Department of Health, spoke on polio and the use of gamma globulin before the Pottawattamie County Medical Society, at its final meeting of the season, June 16. The attendance was approximately 30.

The members of the Calhoun County Medical Society met for the June meeting in Manson. Following the dinner, an address was given by Dr. Dean C. Cooper, of Fort Dodge, on "The Reaction of Normal and Pathological Tissues to Radiation."

---

## PERSONALS

**Dr. Jack Haskell**, of Reinbeck, left on June 29 for a tour of military service.

The citizens of Orient, Iowa, held a banquet on June 21 to commemorate the fiftieth anniversary of **Dr. A. S. Bowers'** entrance into medical practice. He has worked in Orient all of those years, since June 17, 1903.

The State Board of Health honored **Dr. Walter L. Bierring**, retiring Commissioner, at a dinner in the Des Moines Club, on Monday, June 22. About 40 of his friends attended.

**Dr. Oliver L. Babcock** has moved from Minneapolis to begin general practice in Albert City. After taking his B.A. at S.U.I., he did graduate study at McGill, taught physiology at Cornell University, took his M.D. at Temple, served 10 years as flight surgeon during World War II and the Korean War, and taught the medicine of

atomic, biologic and chemical warfare in Philadelphia. Mrs. Babcock is finishing her internship in physical therapy at the University of Minnesota.

**Dr. Martin Deakins** closed his office in Logan on June 15 to associate himself with **Dr. J. E. Blumgren**, in the Lovett Clinic, at Vinton. He replaces **Dr. G. A. Fry**, who hereafter will practice separately in Vinton.

**Dr. R. H. Foss**, of Clinton, terminated his practice there on June 20 to enroll in a four-year postgraduate course in ophthalmology at S.U.I. His practice has been taken over by **Dr. J. Glick**, a graduate of the College of Medicine at the University of Illinois. Dr. Glick has been in practice for two years at Walkerton, Indiana.

**Dr. Arthur B. Cloud**, who has been in Audubon for about two years, has moved his practice to Guthrie Center.

**Dr. Loren G. Peterson**, of Holstein, left for Fort Sam Houston, Texas, on July 1, to enter army service. **Dr. J. E. Fitzpatrick**, who replaces him, received his medical education at Creighton and recently completed his internship at St. Joseph Hospital, in Omaha.

After completing his internship in Omaha, **Dr. John Heffron**, a Creighton University graduate, has joined the staff of the Watts Hospital, in Marengo.

Two 1952 graduates of the College of Medicine at the University of Colorado who just finished internships in Kansas City, **Dr. Duane Mitchell** and **Dr. George H. Rogers**, have opened an office for general practice in Mt. Ayr.

**Dr. George G. Caudill** is henceforth to be associated with **Dr. R. E. Frech** and **Dr. J. R. Singer** in their clinic at Newton. A 1952 S.U.I. graduate, Dr. Caudill just finished his internship at Broadlawn Hospital, in Des Moines.

**Dr. W. P. Garred**, of Whiting, has been called into military service and sent to a camp in Maryland.

On July 1, **Dr. Vernon E. Weikel** opened an office for general practice in LeMars. A 1952 graduate of the College of Medicine at S.U.I., he served his internship at St. Joseph Mercy Hospital, in Sioux City.



**Dr. L. B. Williams** began practicing medicine and surgery at Maquoketa on July 1. After graduating from the College of Medicine at S.U.I. in 1948, Dr. Williams served an internship and a residency in surgery in Cleveland, had an additional year's residency in surgery at the Mayo Clinic, and since then has been stationed in Germany with the U. S. Army Medical Corps.

**Dr. Gerald H. Sutton**, following his graduation from the Creighton University Medical School and an internship at Iowa Methodist Hospital, in Des Moines, has returned to Boone, his boyhood home, to begin medical practice. He is to be the associate of **Dr. Thomas E. Kane**.

Retiring after 35 years of practice, **Dr. L. H. Kornder**, of Davenport, has said that he intends devoting himself henceforth to his civic interests. He is president of the board of the Davenport museum; vice-president of the Municipal Art Gallery; curator of the Iowa State Historical Society; and a trustee of Dubuque University.

**Dr. Richard C. Mitchell**, who has been on the staff of Children's Hospital, at S.U.I., has begun private practice of pediatrics in Mason City.

The Black Hawk County Mental Health Center has announced the addition to its staff of **Dr. Roger E. White**. Dr. White has an M.D. from Long Island College of Medicine, he studied psychiatry at the University of Pennsylvania, and he served a residency in his specialty at Norway Foundation Hospital, in Indianapolis.

On July 1, **Dr. J. S. Gottlieb** resigned from the faculty of the College of Medicine at S.U.I. to become chairman of the Departments of Psychiatry and Neurology at the University of Miami, in Miami, Florida.

## DEATHS

**Dr. Zanella E. N. Morris**, 89, of Stockport, died at Van Buren Hospital, in Keosauqua, on Monday afternoon, June 15. She was a life member of the Iowa State Medical Society, a member of the Women's Medical Society of Iowa, and a past-president of the Van Buren County Medical Society.

**Dr. Edward Louis Reinicke**, 73, of Dubuque, died on Sunday morning, June 22, at Finley Hospital, in Dubuque, after a long illness. A life member of the Iowa State Medical Society, he had been in retirement for several years.

**Dr. Leo Cornelius Kuhn**, 64, died in Decorah on Tuesday, June 23, after practicing medicine

there for 33 years. He suffered a heart attack in his office.

**Dr. Henry Durst Jones**, 73, Schleswig physician and surgeon, was taken seriously ill only a few days after announcing his retirement, and died a month later, at his home, on June 26.

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of July 10, 1953

Ackerman, J. H., Clarksville  
(Atlanta, Georgia) ....Sr. Asst. Surgeon, U.S.P.H.S.  
Arnold, K. E., Sioux City  
(Port Hueneme, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Bartholomew, R. D., Lake City  
(Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R.  
Benton, J. S., Des Moines.....1st Lt., A.U.S.  
Bogle, W. C., Marion  
(Great Lakes, Ill.) .....Lt., U.S.N.R.  
Braatlien, N. T., Des Moines  
(Rock Island, Ill.) ..... 1st Lt., U.S.A.F.  
Brennan, J. E., Des Moines  
(Camp Pendleton, Calif.) .....Lt., U.S.N.R.  
Broman, J. A., Maquoketa  
(Ft. Sill, Okla.) ..... Capt., A.U.S.  
Buzan, E. F., Des Moines  
(Yuma, Arizona) .....  
Christensen, J. R., Eagle Grove  
(Battle Creek, Mich.) .....Lt., A.U.S.  
Cline, H. L., Iowa City  
(Denver, Colorado) ..... A.U.S.  
Couchman, P. G., Des Moines  
(Battle Creek, Mich.) ..... 1st Lt., U.S.A.F.  
Daut, R. V., Davenport  
(Westover Field, Massachusetts) ....Capt., U.S.A.F.  
Davidson, M. C., Emmetsburg  
(El Paso, Tex.) .....Col., A.U.S.  
Donahoe, J. F., Fort Dodge  
(Des Moines, Iowa) .....1st Lt., A.U.S.  
Dooley, J. E., Fort Dodge  
(Pleasanton, Calif.) .....Capt., U.S.A.F.  
Dunseth, W. R., Kellogg .....A.U.S.  
Eckhardt, R. D., Iowa City  
(Portsmouth, Virginia) ..... Lt., U.S.N.R.  
Field, C. A., Cresco  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.  
Foley, W. E., Jr., Davenport  
(Phoenix, Arizona) .....Capt., U.S.A.F.  
Garred, J. L., Whiting  
(San Diego, Calif.) ..... U.S.N.R.  
Garred, W. P., Dow City  
Giles, F. E., Cresco  
(Ft. Sam Houston, Tex.) .....A.U.S.  
Gladstone, W. S., Jr., Iowa City  
(Crestview, Fla.) .....U.S.A.F.  
Godbey, M. E., Mt. Pleasant  
(Gunter A.F.B., Montgomery, Ala) 1st Lt., U.S.A.F.  
Haskell, J. G., Reinbeck  
Hickman, D. M., Indianola  
(Alexandria, Louisiana) ..... 1st Lt., U.S.A.F.  
Horton, R. R., Algona  
(Bremerton, Washington) .....Lt., U.S.N.R.  
Isham, R. B., Osage .....U.S.N.R.  
Iwen, G. W., Iowa City  
Jenkins, H. F., Ogden  
(Randolph A.F.B., Texas) .....U.S.A.F.  
Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) .....Capt., U.S.A.F.  
Johnson, M. H., Iowa City  
(APO New York, N. Y.) .....Capt., A.U.S.  
Johnson, W. A., Emmetsburg  
(Corona, California) .....Lt., U.S.N.R.

Judiesch, K. J., Iowa City  
(Ft. Sam Houston, Tex.) .....1st Lt., A.U.S.

Kenney, B. E., Woodbine  
(Raleigh, North Carolina) .....1st Lt., U.S.A.F.

Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) .....Lt., U.S.N.R.

Kuehn, W. G., Clarinda  
(A.P.O. San Francisco, Calif.) .....Lt., U.S.N.R.

Kuehnle, G. R., Dubuque  
(Baton Rouge, La.) .....Lt., U.S.N.R.

Kurth, R. J., Waterloo  
(Minneapolis, Minn.) .....Capt., U.S.A.F.

Ladwig, H. A., Sioux City  
(Great Lakes, Ill.) .....U.S.N.R.

Leiter, E. R. K., Des Moines  
(Bangor, Me.) .....Capt., U.S.A.F.

Martins, J. K., Waterloo  
(Bayonne, N. J.) .....Lt., U.S.N.R.

Maxwell, J. R., Iowa City  
(Ft. Sam Houston, Tex.) .....1st Lt., A.U.S.

Middleton, W. H., Central City  
(Bethesda, Maryland) .....U.S.N.R.

Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) .....Lt. Col., A.U.S.

Nielsen, G. E., Des Moines  
(Topeka, Kan.) .....1st Lt., U.S.A.F.

Paul, R. E., Des Moines  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.

Peterson, L. G., Holstein  
(Ft. Sam Houston, Tex.) .....A.U.S.

Pfaff, R. A., Dubuque  
(Camp Pendleton, Calif.) .....Lt., U.S.N.R.

Prendergast, L. J., Iowa City  
(Oceanside, California) .....U.S.N.R.

Province, Wm., Jr., Dubuque  
(Long Beach, Calif.) .....U.S.N.R.

Puntenney, A. W., Boone  
(Portsmouth, Va.) .....Lt., U.S.N.R.

Rhode, M. C., Iowa City  
(Philadelphia, Pa.) .....Lt., U.S.N.R.

Saunders, R. J., Colfax  
(APO San Francisco, Calif.) .....1st Lt., U.S.A.F.

Schlichtemeier, E. O., Peterson  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.

Shaffer, F. J., Iowa City .....Col., U.S.A.F.

Shulldberg, Arthur, Des Moines  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.

Sinton, D. W., Iowa City  
(Colorado Springs, Colorado) .....A.U.S.

Smith, C. B., Iowa City  
(Bowling Green, Ky.) .....Capt., A.U.S.

Spohnheimer, L. N., Donnellson  
(Randolph A.F.B., Texas) .....1st Lt., U.S.A.F.

Stivers, T. W., Des Moines  
(Hutchinson, Kansas) .....Lt. (jg) U.S.N.R.

Stutsman, R. E., Washington  
(Miami, Fla.) .....Cmdr., U.S.N.

Sugioka, Kenneth, Iowa City  
(Long Island, N. Y.) .....A.U.S.

Theilen, E. O., Iowa City  
(Washington, D. C.) .....Capt. A.U.S.

Thistlewaite, E. A., Des Moines  
(Riverside, Calif.) .....1st Lt., U.S.A.F.

Thompson, J. W., Ames  
(Camp Breckinridge, Kentucky) .... Capt., A.U.S.

Thornton, F. E., Des Moines  
(Portsmouth, Va.) .....Lt. Cmdr., U.S.N.R.

Tice, W. K., Iowa City  
(Kansas City, Kan.) .....1st Lt., A.U.S.

Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) .....1st Lt., A.U.S.

Uchiyama, J. K., Des Moines  
(Wichita Falls, Texas) .....1st Lt., U.S.A.F.

Vincent, J. F., Fort Dodge  
(Langley A.F.B., Va.) .....Capt., U.S.A.F.

von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) .....Lt., U.S.N.R.

Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) .....U.S.N.R.

Wall, J. M., Boone  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.

Walker, J. R., Waterloo  
(Bethesda, Maryland) .....Lt., U.S.N.R.

Walston, J. H., Graettinger  
(Lackland A.F.B., Texas) .....1st Lt., U.S.A.F.

Watson, C. F., Stacyville  
(Hot Springs, Ark.) .....U.S.P.H.S.

Westly, J. S., Mason City  
(Norfolk, Virginia) .....Lt., U.S.N.R.

Wiedemeier, J. L., Sioux City  
(APO San Francisco, Calif.) .....1st Lt., A.U.S.

\*Wilkins, D. S., Iowa City  
(APO San Francisco, Calif.) .....Capt., A.U.S.

Witte, H. J., Marathon  
(San Francisco, Calif.) .....Lt. Col., A.U.S.

Young, R. A., Clarion  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.

Zeilenga, R. H., Orange City  
(Madison, Wisc.) .....1st Lt., U.S.A.F.

\* Deceased

## State Department of Health

(Continued from page 355)

### Status Report

## IOWA HOSPITAL CONSTRUCTION PROGRAM

June 1, 1953

Name of Hospital	Location	No. of Beds	Status of Project
Davis County	Bloomfield	34	100%*
Van Buren County Memorial	Keosauqua	23	100%*
Adair County Memorial	Greenfield	29	100%*
Madison County Memorial	Winterset	39	100%*
Delaware County Memorial	Manchester	43	100%*
Veterans' Memorial	Waukon	22	100%*
Jackson County Public	Maquoketa	38	100%*
Jefferson County	Fairfield	35 Add.	100%*
Ringgold County	Mount Ayr	30	100%*
Crawford County Memorial	Denison	50	100%*
Buena Vista County	Storm Lake	50	100%*
Loring	Sac City	32	100%*
Palmer Memorial	West Union	22	100%*
Murphy Memorial	Red Oak	17 Add.	100%*
Rosary	Corning	41	100%*
Sioux Valley	Cherokee	42 Add.	100%*
Iowa Methodist	Des Moines	22 Add.	100%*
Ottumwa	Ottumwa	133	100%*
Guthrie County	Guthrie Cntr.	38	100%*
Grundy County Memorial	Grundy Cntr.	40	100%*
Community Memorial	Clarion	28	100%*
Sioux Center Community	Sioux Center	26	100%*
Spencer Municipal	Spencer	41 Add.	98%*
Community Memorial	Sheldon	24	100%*
Jennie Edmundson Memorial	Council Bluffs	54 Add.	100%*
Virginia Gay	Vinton	36	100%*
St. Luke's Methodist	Cedar Rapids	237 Add.	100%*
De Witt Community	De Witt	32	100%*
Mitchell County Memorial	Osage	32	100%*
Greene County	Jefferson	21 Add.	100%*
St. Luke's	Davenport	52 Add.	100%*
Myrtue Memorial	Harlan	47	53%*
Clarke County Public	Osceola	32	100%*
Mercy	Oelwein	27 Add.	91%*
Audubon County Memorial	Audubon	30	100%*
Hamilton County Public	Webster City	50 Add.	93%*
St. Bernard's	Council Bluffs	138 Add.	92%*
Hand Community	Shenandoah	18 Add.	99%*
Hancock County Memorial	Britt	32	72%*
Muscatine County	Muscatine	139	70%*
Mercy	Davenport	111 Add.	19%*
Continuation Care Center			
Lutheran	Sioux City	53 Add.	88%*
Dallas County	Perry	39	12%*
Sacred Heart	Fort Madison	61 Add.	13%*
Wayne County	Corydon	34	1%*
Keokuk County	Sigourney	34	12%*

\* Final payment made.

Note: Projects indicated as 100% complete are open and receiving patients.



# IOWA STATE MEDICAL SOCIETY

## Officers and Committees, 1953-1954

President ..... Robert N. Larimer, Sioux City  
President-Elect ..... Gerald V. Caughlan, Council Bluffs  
First Vice President ..... Clyde A. Boice, Washington  
Second Vice President ..... Clyde A. Henry, Farson  
Secretary ..... Allan B. Phillips, Des Moines  
Treasurer ..... N. Boyd Anderson, Des Moines  
Speaker of House of Delegates, Herman J. Smith, Des Moines  
Vice Speaker of House of Delegates,  
Charles P. McHugh, Sioux City

### COUNCILORS

	Term Expires
First District—Arthur F. Fritchen, Decorah	1955
Second District—Carroll O. Adams, Mason City	1956
Third District—Matthew T. Morton, Estherville	1954
Fourth District—Paul W. Brecher, Storm Lake	1955
Fifth District—Ernest M. Kersten, Fort Dodge	1954
Sixth District—Otis D. Wolfe, Marshalltown	1955
Seventh District—Eugene F. Van Epps, Iowa City	1956
Eighth District—Clyde A. Boice, Washington	1954
Ninth District—Elias B. Howell, Ottumwa	1956
Tenth District—Ivan K. Sayre, St. Charles	1954
Eleventh District—Oscar Alden, Red Oak	1955

### TRUSTEES

Lonnie A. Coffin, Farmington, Chairman	1956
John W. Billingsley, Newton	1954
Wendell L. Downing, LeMars	1955

### DELEGATES TO AMA

Gerald V. Caughlan, Council Bluffs	January 1, 1954
George Braunlich, Davenport	January 1, 1955
Donald C. Conzett, Dubuque	January 1, 1956

### ALTERNATE DELEGATES TO AMA

	Term Expires
Donovan F. Ward, Dubuque	January 1, 1954
Frank G. Ober, Burlington	January 1, 1955
Otis D. Wolfe, Marshalltown	January 1, 1956

### EXECUTIVE COUNCIL

Robert N. Larimer, Chairman	Sioux City
Gerald V. Caughlan	Council Bluffs
Clyde A. Boice	Washington
Allan B. Phillips	Des Moines
N. Boyd Anderson	Des Moines
Lonnie A. Coffin	Farmington
John W. Billingsley	Newton
Wendell L. Downing	LeMars
Arthur F. Fritchen	Decorah
Carroll O. Adams	Mason City
Matthew T. Morton	Estherville
Paul W. Brecher	Storm Lake
Ernest M. Kersten	Fort Dodge
Otis D. Wolfe	Marshalltown
Eugene F. Van Epps	Iowa City
Clyde A. Boice	Washington
Elias B. Howell	Ottumwa
Ivan K. Sayre	St. Charles
Oscar Alden	Red Oak
Gerald V. Caughlan	Council Bluffs
George Braunlich	Davenport
Donald C. Conzett	Dubuque

### THE JOURNAL

Everett M. George	Des Moines
-------------------	------------

## Standing Committees of the House of Delegates

### COMMITTEE ON SCIENTIFIC WORK

R. N. Larimer, Chairman	Sioux City
G. V. Caughlan	Council Bluffs
A. B. Phillips	Des Moines
N. Boyd Anderson	Des Moines

### COMMITTEE ON LEGISLATION

F. C. Coleman, Chairman	Des Moines
J. W. Billingsley	Newton
J. D. Conner	Nevada
R. N. Larimer	Sioux City
A. B. Phillips	Des Moines

### COMMITTEE ON NECROLOGY

This committee consists of the Councilors

### MEDICO-LEGAL COMMITTEE

L. K. Meredith, Chairman	Des Moines
E. F. Van Epps	Iowa City
V. C. Robinson	Des Moines

### COMMITTEE ON ARTICLES OF INCORPORATION AND BY-LAWS

R. H. Flocks	Iowa City
A. B. Phillips	Des Moines
E. H. Sibley	Sioux City

### COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

B. T. Whitaker, Chairman	Boone
E. M. Kersten	Fort Dodge
L. F. Hill	Des Moines
J. H. Randall	Iowa City
G. H. Scanlon	Iowa City

### GRIEVANCE COMMITTEE

M. J. McGrane	New Hampton
S. P. Leinbach	Belmond
T. L. Ward	Arnolds Park
J. M. Krigsten	Sioux City
G. E. McFarland, Jr.	Ames
F. N. Cole	Iowa Falls
J. W. Lawrence	Dubuque
G. H. Ashline	Keokuk
E. A. Larsen	Centerville
H. G. Beatty	Creston
C. H. Flynn	Clarinda

### COMMITTEE ON PUBLIC HEALTH

E. A. Larsen, Chairman	Centerville
------------------------	-------------

#### Subcommittee on Cancer

E. G. Zimmerer, Chairman	Des Moines
J. R. Dewey	Schaller
H. W. Morgan	Mason City
V. W. Petersen	Clinton
W. J. Balzer	Davenport
S. F. Singer	Ottumwa
K. R. Cross	Iowa City
J. D. Hennessy	Council Bluffs

#### Subcommittee on Geriatrics

W. D. Paul, Chairman	Iowa City
Abraham Gelperin	Des Moines
C. V. Edwards	Council Bluffs

#### Subcommittee on Rehabilitation

C. B. Larson, Chairman	Iowa City
C. O. Adams	Mason City
D. C. Wirtz	Des Moines
W. M. Krigsten	Sioux City
H. H. Samberg	Des Moines

*Subcommittee on Maternal and Child Health*

C. P. Phillips, Chairman .....	Muscatine
R. M. Collins .....	Council Bluffs
H. A. Weis .....	Davenport
H. E. Farnsworth .....	Storm Lake
O. A. Stauch .....	Sioux City
L. F. Hill .....	Des Moines
C. A. Hanson .....	Waterloo
Madelene Donnelly .....	Des Moines

*Subcommittee on Mental Health*

J. I. Marker, Chairman .....	Davenport
H. C. Merillat .....	Des Moines
L. B. Sedlacek .....	Cedar Rapids
M. B. Emmons .....	Clinton
C. C. Graves .....	Des Moines
J. D. Mahoney .....	Council Bluffs
G. R. Rausch .....	Sioux City

*Subcommittee on Industrial Health*

R. F. Frech, Chairman .....	Newton
T. D. Throckmorton .....	Des Moines
S. T. Moen .....	Cedar Rapids
D. W. Coughlan .....	Des Moines
C. J. Lohmann .....	Burlington
L. J. Miltner .....	Davenport
H. A. Amesbury .....	Clinton

*Subcommittee on National Health Associations*

R. H. Heeren, Chairman .....	Des Moines
F. T. Top .....	Iowa City
R. E. Smiley .....	Mason City
L. E. January .....	Iowa City
L. J. Galinsky .....	Des Moines
William Spear .....	Oakdale

*Subcommittee on Gamma Globulin*

R. H. McBride, Chairman .....	Sioux City
J. G. Fellows .....	Ames
M. J. Foster .....	Cedar Rapids
L. F. Hill .....	Des Moines

*Subcommittee on Rural Health*

B. F. Howar, Chairman .....	Webster City
R. S. Jaggard .....	Oelwein
S. P. Leinbach .....	Belmond
D. G. Sattler .....	Kalona

*Subcommittee on Health Education*

J. D. Conner, Chairman .....	Nevada
J. J. Shurts .....	Eldora
C. D. Ellyson .....	Waterloo

## COMMITTEE ON MEDICAL SERVICE

Fred Sternagel, Chairman .....	West Des Moines
--------------------------------	-----------------

*Subcommittee on Insurance*

M. I. Olsen .....	Des Moines
-------------------	------------

*Subcommittee on Veterans Affairs*

R. C. Gutch .....	Chariton
-------------------	----------

*Subcommittee on Hospital and Professional Relations*

C. H. Stark, Chairman .....	Cedar Rapids
D. C. Koser .....	Cherokee
J. E. Tyrrell .....	Manchester
J. H. Henkin .....	Sioux City
W. K. Cooper .....	Cedar Rapids

*Subcommittee on Medical Services to the Indigent*

F. D. McCarthy, Chairman .....	Sioux City
A. J. Havlik .....	Tama
M. G. Bourne .....	Algona
G. W. Cusick .....	Davenport

## COMMITTEE ON PUBLIC RELATIONS

O. N. Glesne, Chairman .....	Fort Dodge
E. H. Files .....	Cedar Rapids
R. E. Smiley .....	Mason City
T. W. McMeans .....	Davenport

*Subcommittee on Interprofessional Relations*

J. G. Fellows, Chairman .....	Ames
F. M. Burgeson .....	Des Moines
E. J. Boyd .....	Iowa City

*Subcommittee on Doctor-Patient Relations*

O. N. Glesne, Chairman .....	Fort Dodge
E. H. Files .....	Cedar Rapids
C. W. Seibert .....	Waterloo
W. M. Sproul .....	Des Moines
T. W. McMeans .....	Davenport

*Subcommittee on Labor and Industry*

T. D. Throckmorton, Chairman .....	Des Moines
R. E. Smiley .....	Mason City

*Subcommittee on Public Education*

D. F. Ward, Chairman .....	Dubuque
B. T. Whitaker .....	Boone
W. D. Abbott .....	Des Moines
T. D. Throckmorton .....	Des Moines
H. J. Smith .....	Des Moines
R. B. Stickler .....	Des Moines

---

## Special Committees of the House of Delegates

---

## BALDRIDGE-BEYE MEMORIAL COMMITTEE

J. W. Agnew .....	Davenport
-------------------	-----------

## OSTEOPATHIC COMMITTEE

J. D. Conner, Chairman .....	Nevada
J. J. Shurts .....	Eldora
J. M. Rhodes .....	Pocahontas
T. E. Shea .....	Storm Lake
C. A. Boice .....	Washington

## NATIONAL EMERGENCY MEDICAL SERVICE

J. W. Ferguson, Chairman .....	Newton
E. M. Honke .....	Sioux City
F. G. Ober .....	Burlington
W. I. Evans .....	Sac City
R. P. Rusk .....	Dubuque
R. C. Hardin .....	Iowa City

## COMMITTEE ON WOMAN'S AUXILIARY

G. V. Coughlan .....	Council Bluffs
L. A. Coffin .....	Farmington
O. D. Wolfe .....	Marshalltown

## COMMITTEE ON CORONER'S LAW

R. E. Smiley, Chairman .....	Mason City
------------------------------	------------

F. C. Coleman .....	Des Moines
W. D. Anderson .....	Des Moines

## NURSING EDUCATION AND SERVICE

E. P. Lovejoy, Chairman .....	Des Moines
R. F. Birge .....	Des Moines
C. V. Edwards .....	Council Bluffs
J. E. Houlihan .....	Mason City
J. H. Henkin .....	Sioux City

## HISTORICAL COMMITTEE

W. L. Bierring, Chairman .....	Des Moines
Jeannette Dean-Throckmorton .....	Des Moines
C. A. Henry .....	Farson
J. T. McClintock .....	Iowa City
C. L. Jones .....	Gilmore City
C. A. Boice .....	Washington
D. L. Long .....	Mason City

## INSURANCE COMMITTEE

G. E. Johann .....	Des Moines
Geo. G. Young .....	Des Moines
J. W. Ferguson .....	Newton



# The JOURNAL

of the

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, SEPTEMBER, 1953

No. 9

### ACUTE POLIOMYELITIS\*

A STUDY OF THE PATIENTS SEEN AT THE RAYMOND BLANK MEMORIAL HOSPITAL DURING 1952

ROBERT M. BLIZZARD, M.D.

FLOYD E. SAWYER, M.D.

ALLAN K. CHAPPELL, M.D.

DES MOINES, IOWA

THIS IS A STUDY of the patients seen at the Raymond Blank Memorial Hospital during the poliomyelitis epidemic in 1952. It was the worst epidemic ever experienced in Iowa. It is interesting to note that in 1946 during an "epidemic" year there were 620 cases of polio in the entire state of Iowa. In 1952 there were 629 cases cared for at Blank Hospital alone.

The purpose of this study is twofold: (1) to gain knowledge about poliomyelitis from an analysis of a sufficient number of cases to be statistically significant, and (2) to present our methods of treatment, which resulted in what we consider to be a very low mortality rate. Because certain charts are not available, the figures will be compiled from 609 cases rather than from the total of 629.

#### INCIDENCE

The incidence of poliomyelitis according to the month of admission is shown in Chart 1. The majority of admissions were in August and September, gradually diminishing in both directions from those two months.

CHART 1

Month	Number of cases
April	1
May	3
June	6
July	76
August	208
September	213
October	74
November	23
December	5
TOTAL	609

Age incidence is indicated in Chart 2. There

were four patients less than six months of age, the youngest being ten days old at the time of admission. The majority can be seen to be concentrated in the four to seven year age group. Incidence falls off sharply at less than one year of age and at over fifteen years of age.

CHART 2

Age in years	Number of cases
0-1	7
1-3	139
4-7	226
8-11	148
12-15	83
15-	6
TOTAL	609

Distribution of poliomyelitis is usually not considered to be preferential toward either sex, but in our series a statistically significant difference was noted. There were 378 males to 231 females, or males to females in a ratio of 1.64 : 1.0.

It was noted that in spite of a relatively large colored population in Des Moines, only three of our patients were of that race.

#### CLASSIFICATION

Poliomyelitis is arbitrarily classified as (1) Non-paralytic, (2) Paralytic including—A. Spinal and B. Bulbar, (3) Encephalitis with various combinations occurring. Chart 3 shows the classification of all our cases into the above groups.

CHART 3

Type	Number of cases	Per cent of total
Non-paralytic	302	49.6%
Paralytic	304	49.9%
Spinal	183	30.0%
Bulbar	121	19.9%
Encephalitic	3	0.5%

#### HISTORY

The presenting symptoms were analyzed. The most common and their relative frequency, as listed in Chart 4, are somewhat in disagreement with reports by others, for instance, Baker, at the University of Minnesota, who states that diarrhea is a very common symptom. We found diarrhea as

\* 2nd Prize, Pediatrics Essay Contest.

a presenting complaint in only two patients out of 488.

It is of interest to note that the symptoms and signs are exclusively related to the neuromuscular system, the upper respiratory system and the gastrointestinal system. These findings might have been expected in the light of the currently accepted theories of the pathogenesis of the disease.

CHART 4

Presenting complaint	Number of cases	Per cent of 488 cases
Fever .....	376	77.5%
Headache .....	274	46.9%
Stiff neck .....	133	29.3%
Nausea and vomiting ...	122	25.4%
Backache .....	69	14.1%
Weakness .....	54	11.0%
Myalgia .....	49	10.0%
Sore throat .....	47	9.6%
Lethargy .....	27	5.9%
Abdominal pain .....	19	4.3%
Drowsy, irrational, etc...	12	2.5%
Tremor .....	7	1.5%
Ataxia .....	7	1.5%
Epistaxis .....	3	0.6%
Diarrhea .....	2	0.4%

History of a day or two with a sore throat, fever, headache, etc., several days prior to the onset of definite symptoms of the disease with an asymptomatic period intervening—or the dromedary pattern—was elicited in only 80 out of 452 patients.

Duration of symptoms before hospital admission was five days or less in 95 per cent of the cases, the great majority being three days or fewer.

An evaluation of immunizations was made in view of reports suggesting the relationship of recent injections to paralysis of the extremity injected. A total of 314 patients out of 488 evaluated had received immunization injections; 81 had not received immunizations; and in 93 there was no note made concerning immunizations. A total of 14 patients had received injections ranging from a few days up to four weeks prior to the onset of their disease; of these, 9 or 64.3 per cent developed paralysis. Unfortunately, in only 1 of the 14 cases was a statement made about which limb was injected; in this case, paralysis occurred in the limb injected. Because of the small number involved, this does not seem statistically significant and is only 14.4 per cent above the incidence of paralysis (49.9 per cent) in our entire series.

An evaluation of tonsillectomies, both recent and old, was also made in relationship to the incidence of paralysis. Of the 609 patients, 222 had had tonsillectomies, 167 had not, and 220 were not recorded. The total percentage who had had tonsillectomy (discounting those not recorded) was 222 out of 389 or 57 per cent. Of the patients who had had tonsillectomy, 108 out of 222 or 48.6 per cent had paralysis. The above figures pertain to the entire series of patients. The significance of tonsillectomy becomes more apparent when the figures are broken down into bulbar and non-bulbar cases. Chart 5 illustrates the differences in the two groups.

CHART 5

Group	Number of cases recorded	Tonsillectomy performed	Per cent of each group with tonsillectomy
Bulbar .....	93	68	72.9%
Non-bulbar .....	332	119	35.8%

It can be seen that over twice as many bulbar patients had had tonsillectomy as compared to the non-bulbar patients. This would appear to be strong evidence against the performance of tonsillectomy unless the procedure is specifically indicated.

In the 17 cases which had had tonsillectomy within six months of the onset of polio, only 9 had paralysis. Seven of these were spinal and the other two were bulbar cases. This is surprising, in view of the reports which indicate a much more marked correlation between recent tonsillectomy and the subsequent susceptibility to poliomyelitis, particularly the bulbar type.

A record was made of patients whose close relatives also had polio. There were 25 patients in our 1952 series who had siblings with the disease, and 10 patients, who had a parent with the disease. Thus, a total of 35 patients, or 6.6 per cent in our series had poliomyelitis along with some other member of the family. There were 8 patients whose relatives had had polio in past years.

## PHYSICAL FINDINGS

The physical findings were chiefly stiff neck and back, muscular pain and spasm. Decreased deep tendon reflexes and varying degrees of weakness were common findings. Of 300 patients specifically checked, 119, or 39.6 per cent had red throat.

Temperature on admission was analyzed and is reported in Chart 6. The temperature was significantly elevated in the majority of the patients, but was for the most part of low grade. The duration of fever was from one to eighteen days. Average total duration was 5.2 days.

CHART 6

Temperature	Number of cases
Normal to 100 .....	61
100.2 to 101 .....	99
101.2 to 102 .....	160
102.2 to 103 .....	176
103.2 to 104 .....	74
104.2 to 105 .....	35
105.2 to .....	4

An elevated blood pressure on admission was found in 65 patients; of these there were 37 in the non-bulbar group, or 7.6 per cent, and 28 in the bulbar group or 23 per cent. As will be shown later, there is a definite correlation between elevation of the blood pressure and severity of the disease in the bulbar group.

## LABORATORY FINDINGS

The spinal-fluid cell count was recorded on 513



patients, but no correlations could be found between number of cells and severity or form of the disease. The cell counts are enumerated in Chart 7. The highest cell count was 2,042.

CHART 7

Spinal fluid cell count	Number of cases	Per cent of incidence
0-10	30	5.9%
11-100	224	43.7%
101-200	108	21.1%
201-300	66	12.8%
301-400	36	7.0%
401-	49	9.5%

The differential cell count was unremarkable. In 80, or 53.3 per cent, the percentage of polymorphonuclear leukocytes was more than 50 per cent, and in 70 or 46.7 per cent the percentage was less than 50 per cent. The average value for the spinal fluid protein was 35 mg. per cent, the highest being 180 mg. per cent and the lowest being 10 mg. per cent.

White blood cell count was done on 176 patients on admission, the results are recorded in Chart 8. In the great majority of cases it was less than 9,000, as one would expect with a virus infection. The highest count recorded was 26,450.

CHART 8

White blood count, in thousands	Number of cases	Per cent of incidence
4-6	50	28.4%
7-9	57	32.4%
10-12	32	18.2%
13-15	21	11.9%
15-	16	9.1%

The remainder of this report will be divided into separate consideration of the non-bulbar patients as a group and the bulbar patients as a group.

NON-BULBARS

There were 485 non-bulbar patients, of whom 302 were non-paralytic and 183 were paralytic.

An attempt was made to ascertain the time of paralysis in relation to the onset of symptoms in

CHART 9

Onset of paralysis in number of days after onset of symptoms	Number of cases
1	27
2	31
3	37
4	32
5	16
6	13
7	8
8	2
9	2
10	2
11	1
13	1
14	1
15	1
20	1
TOTAL	175

the paralytic group—175 cases out of the total are reported in Chart 9. It can readily be seen that in the majority of cases (90.3 per cent) the paralysis occurred within six days after the onset of symptoms.

Because of the lack of space during the height of the epidemic, many patients were transferred from Blank Hospital to other hospitals in Des Moines after the acute phase of the disease was over. A total of 155 patients out of the 485 in the non-bulbar group were transferred. This made it difficult to make an analysis of residual tightness and paralysis; however, the residual of the paralytic patients who remained in this hospital until discharged home was tabulated and this is shown in Chart 10.

CHART 10

Residual (major)	Number of cases
Weakness of one leg	55
Weakness of both legs	48
Weakness of one arm	31
Weakness of both arms	5
Weakness of more than two extremities	20
Weakness of neck and/or abdominal muscles	3
Weakness of intercostals and/or diaphragm	10

Complications in the non-bulbar group were not much of a problem except in those with intercostal and/or diaphragmatic involvement. Urinary retention was the most common complication, but good results were obtained with Furmethide in most instances. An unfortunate incident occurred when a highly allergic child was given this drug. He had a sudden, violent anaphylactic-like reaction and nearly died; prompt administration of atropine counteracted the harmful effects of the drug. From our experience, Furmethide is a useful drug, but must be administered with caution. Patients with an allergic history should not be given the drug, and atropine should be on hand for instant injection in the event of an untoward reaction. Constipation was a frequent complication, but encouraging fluids, use of prune juice and enemas, and a close watch for fecal impactions usually resolved this problem. Epistaxis and hematemesis were occasional complications; prothrombin times were done on some of these patients with varying results. Vitamin K by injection was given empirically. In only one case did a significant hypertension persist; a consistently elevated blood pressure of 140/90 and above was noted in a boy with marked weakness of all four extremities and right diaphragm. The hypertension persisted for over three months, but since there were no symptoms referable to the hypertension, and electrocardiogram remained normal, no specific treatment was instituted.

Ten of the non-bulbar group required the respirator because of involvement of the diaphragm and/or intercostals; of these, eight required oxygen in addition and one required suction. One patient had marked weakness of the diaphragm and intercostals and expired in spite of treatment

with oxygen, suction, and the respirator. Autopsy revealed pulmonary edema and hemorrhage in addition to nervous system involvement.

Management of these cases included three fundamentals:

1. *Being on the alert for early signs of intercostal or diaphragmatic involvement* i.e.—A. paralysis of the deltoid muscles, B. respiratory difficulty as evidenced by rapid, shallow respirations; use of accessory muscles of respiration; flaring of the alae nasi; asymmetry of movement of the thoracic cage, C. inability to repeat several numbers without pausing for a breath, D. inability to sniff or to hold the breath for 15 to 20 seconds, E. signs of anoxia as evidenced by restlessness; apprehension; increase in pulse rate, blood pressure, and temperature; dyspnea and cyanosis.

2. *Constant attendance by a competent nurse*, who watches for progression of symptoms and checks the vital signs frequently.

3. *Adequate treatment early*, including oxygen, suction, and use of a respirator when and as needed. No definite rule of thumb can be stated, for each case is different, and clinical judgment must be exercised. However, if symptoms are not alleviated by oxygen, then a respirator is needed. If nasopharyngeal secretions are not handled well by the patient or by suction, then a tracheotomy is indicated. The need for suction or tracheotomy in patients who have no bulbar involvement may well be questioned. The necessity occasionally arises when there is marked weakness of the diaphragm and intercostals with the result that secretions are not coughed up and tend to accumulate in the oropharynx. Suction is, therefore, necessary to prevent aspiration into the lungs. In certain cases, flash packs to the thorax were of benefit in relieving spasm of the intercostal muscles, thereby facilitating more nearly normal respiratory movements.

The patients with intercostal and diaphragmatic involvement are slow to regain function. Consequently, they have a markedly diminished vital capacity and a poor cough mechanism. Because of these factors, respiratory infection has been a major problem, and several patients have had repeated bouts of bronchitis, atelectasis, and pneumonia.

Treatment of the average uncomplicated case of poliomyelitis as followed at this hospital, may be outlined as follows:

1. Bed rest
  - A. for duration of the acute phase and until muscle spasm is nearly gone.
  - B. board under mattress
  - C. foot board if necessary
2. Food
  - A. general liquids as tolerated
  - B. gradual increase to soft and then general diet as the temperature returns to normal
  - C. prune juice daily

- D. salt tablets when packs are started
3. Relief of pain and muscle spasm
  - A. aspirin
  - B. hot packs after the temperature is below 101
4. Physiotherapy as necessary (divided between our own physiotherapy department and Kenny therapists)
5. Ambulation
  - A. at optimal time as decided by Staff man in consultation with the therapists
  - B. follow-up clinic until no residual

A detailed analysis of the results obtained on our series of discharged patients is beyond the scope of this report. However, the most recent follow-up records from the files of the physiotherapists and the Kenny therapists reveal the following overall statistics:

Group	Number of cases
1. Paralytic patients with no residual .....	108
2. Paralytic patients with only mild weakness and improving .....	186
3. Paralytic patients with marked weakness of one or more extremity .....	39
4. Paralytic patients, who ambulate with the aid of braces, crutches .....	16
5. Non-paralytic with residual tightness .....	5
6. Paralytic patients with postural changes .....	4

Of the 19 patients in the non-bulbar group who are still in the hospital, four have diaphragmatic and intercostal involvement. The respirator is still required part time by one of these. The rest have marked involvement of one or more extremity, but all are making progress with the aid of daily physiotherapy, tub baths, and artificial appliances.

#### BULBARS

The bulbar group has been arbitrarily classified into four categories according to the severity of the disease process.

1. *Very severe*: Those patients on whom tracheotomy was performed and/or those patients who died.

2. *Severe*: Those patients with complete aphagia and pooling, who required constant suction and Trendelenberg position.

3. *Moderately severe*: Those patients with pooling and/or aphagia, who were handled by intermittent suction and Trendelenberg position.

4. *Mild*: All others.

The numbers of cases in these categories are tabulated in Chart 11.

CHART 11

Category	Number of cases	Per cent of bulbar group
Total bulbars .....	121	100.0%
Very severe .....	21	17.4%
Severe .....	16	13.2%
Moderately severe .....	16	13.2%
Mild .....	68	56.2%



The upper bulbar group includes those patients with symptoms referable to cranial nerve eight and above. In our series there were 18 cases or 14.9 per cent of the total. The fourth nerve was involved in one patient in the mild group. The sixth nerve was involved in one very severe patient and in four patients with mild symptoms. The seventh nerve was involved in 51 cases or 42 per cent of all the bulbar patients.

Lower bulbar involvement included those patients with involvement of cranial nerve nine and below: manifestations of lower bulbar involvement were nasal twang and regurgitation of fluids through the nose (palatal involvement) and by difficulty swallowing and pooling of secretions (pharyngeal involvement). In our series, there were 103 cases, or 85.1 per cent of total. Ninety-five patients or 78.5 per cent of the bulbar group developed symptoms of palatal weakness; in 88 of these the weakness appeared on or before the fourth day of the disease. Palatal involvement was proportionately distributed throughout the various groups. Pooling occurred in 44 patients, or 36.4 per cent of the total; in 38 of the 44 it developed by the end of the fourth day of the illness. Thirty-six of the 44 patients with pooling progressed into either severe or very severe cases. Difficulty swallowing developed in 76 patients or 62.8 per cent of the total; in 74 of these patients, this symptom appeared on or before the fifth day. There was no correlation between the day of onset and the extent of the disease. Forty-one patients developed complete aphagia; this is 35.5 per cent of the total bulbar group and 54 per cent of the patients having incomplete aphagia. Thirty-three of these patients had developed this symptom by the fifth day and 39 by the end of the sixth day.

Certain rather pertinent conclusions can be drawn from the above observations:

1. Involvement of the upper group of cranial nerves may serve as a warning of possibly more serious involvement, but in itself is of no prognostic value.

2. Involvement of the palate and the pharynx occurs most frequently by the end of the fourth or fifth day of the disease.

3. Palatal involvement alone is not a good index of the potential severity of the disease, whereas pooling is significant in that 82 per cent of the patients with this symptom progress into severe or very severe cases.

Analysis of blood pressure in the bulbar group indicated that there is a definite rise in systolic and diastolic pressures, and that the rise is roughly proportional to the severity. More than two-thirds of the very severe patients had a systolic elevation greater than 120 mm. Hg. and a diastolic elevation greater than 80 mm. Hg. as contrasted to less than one-half of the moderately severe and mild groups and 4 per cent of the control group. These findings are enumerated in Figure 1.

Management of the bulbar cases is similar to that for the patients who had diaphragmatic or intercostal involvement. However, the early signs are different and may be listed as follows: (1) nasal twang, (2) difficulty swallowing, (3) pooling of secretions, (4) regurgitation of fluids through the nose and (5) deviation or lack of movement of palate or pharynx. As soon as one of the above signs or symptoms becomes evident, the patient is watched closely for progression of symptoms, for changes in the vital signs, or for signs of anoxia. When pooling is noted, the patient is placed in the Trendelenberg position and intermittent nasal suction is performed. If this is not sufficient, then constant nasal suction is instituted. Oxygen may or may not be beneficial at this point. If constant suction, Trendelenberg position, and oxygen do not alleviate the symptoms, then tracheotomy must be considered. From our experience, in the great majority of cases, progression of symptoms occurs slowly, so that time for observation, thought, and an elective tracheotomy is possible. However, in some cases the interval of time from the first sign of bulbar symptoms to the point at which a tracheotomy and respirator are

Group	Group Total	Systolic Pressure Two or More Days				Diastolic Pressure Two or More Days			
		>120 mm.		>140 mm.		>80 mm.		>90 mm.	
		No.	%	No.	%	No.	%	No.	%
Very Severe	17	13	77	4	23	12	71	9	53
Severe	15	10	67	2	13	11	73	3	20
Moderately Severe	13	5	38	0	0	6	46	0	0
Mild	44	13	27	2	4	17	39	5	11
Control	50	2	4	0	0	2	4	0	0

Fig. 1. Rise in blood pressure was roughly proportional to the seriousness of the disease.

imperative is only a matter of a few hours. Therefore, the necessity for constant attendance of these patients becomes apparent. The indications for tracheotomy, as used here, can be listed, but each case was individualized and no hard and fast rules were followed:

1. Rapidly progressive bulbar signs and symptoms.
2. Progressive signs of anoxia, as evidenced by restlessness, apprehension, increase in pulse rate, blood pressure and temperature.
3. Accumulation of secretions to such an extent that continuous suction could not handle them.
4. Paralysis of the vocal cords or other causes of obstruction of the airway.

Cooperation of the nurses, house staff, attending staff, and the otolaryngologists was excellent and was one of the main factors which made possible our low mortality rate. As soon as a patient showed signs of lower bulbar involvement the otolaryngologist was alerted. He examined the child and was on call at all times for performance of a tracheotomy within a very short time after it was deemed necessary.

Maintenance therapy of the severe bulbars included parenteral fluids, vitamins, catheterization when necessary and constant nursing care. It was found that tube feeding was efficacious if postponed until the acute phase was over. Too early use of the tube often caused vomiting and occasional aspiration of vomitus. Continuous nasal suction was maintained in addition to frequent suction of the trachea and major bronchi. The importance of suction, as often as every 15 to 20 minutes, can not be stressed too much. Immediately after tracheotomy there is usually little to aspirate, but gradually more and more mucous

is recovered by aspiration and in a day or two the secretions become more viscid and difficult to remove. It is only by adequate suction that mucous plugs can be prevented from forming, with resultant atelectasis and pneumonia.

When a patient is placed in a respirator, new management problems arise. We found that a rate of 20 to 30 per minute was optimal in most cases; pressure was adjusted to about 0—5 positive and 10—20 negative. Elevation of the foot of the respirator was often necessary, and turning the patient frequently from side to side is important to prevent hypostatic pneumonia and urinary lithiasis. One important point was noted in removing a patient from the respirator: the process must be gradual and progressive. Often a patient may seem to tolerate being out of a respirator for several hours or longer, but after a day or two suddenly becomes weak and dyspneic. Apparently fatigue gradually occurs until a sudden change for the worse results; this situation is somewhat analogous to a case of severe laryngo-tracheo-bronchitis in a small child.

A new "gadget," which we have found to be very useful is the rocking bed. Removal from the respirator has been greatly speeded by transferring to the rocking bed. Other advantages of this mechanical aid would seem to be (1) betterment of general circulation, (2) aid in respiration, (3) prevention of hypostatic pneumonia and urinary lithiasis.

A total of 19 patients were subjected to tracheotomy; it was performed in 17 of the 19 cases by the end of the fifth day of the illness. Nine of the 19 patients subsequently died. Six had unilateral vocal cord paralysis, 1 had bilateral vocal cord paralysis, 3 had no paralysis and in 9 cases

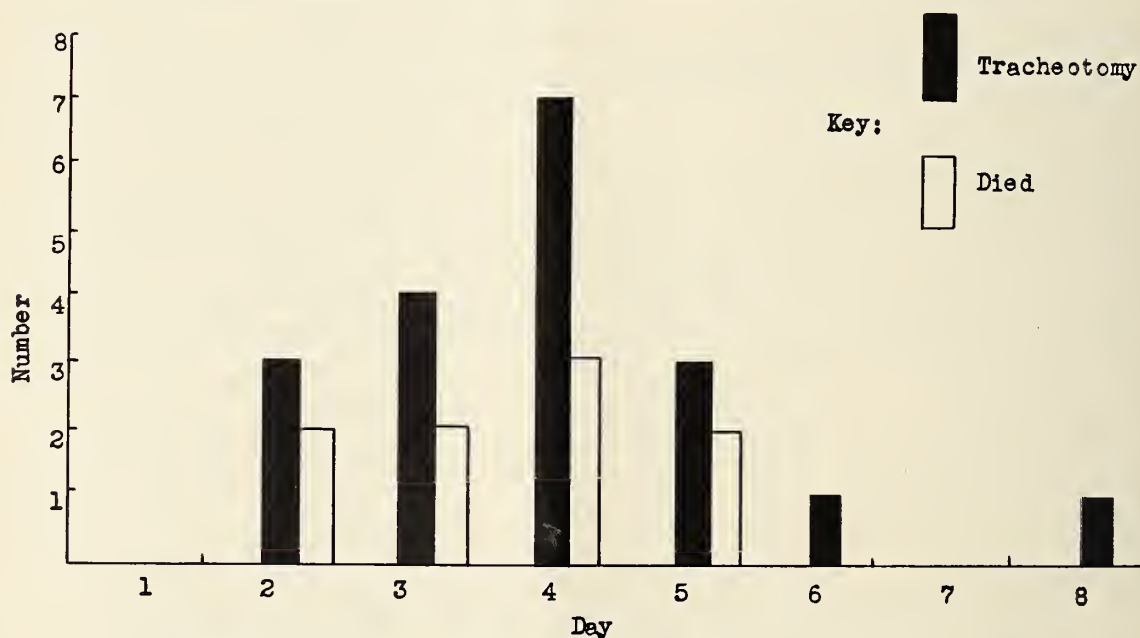


Fig. 2. Mean day that tracheotomy was performed and the number in each group who died.



no record was made as to this finding. Figure 2 shows the mean day that tracheotomy was performed and the number that died in each group.

The respirator is contraindicated in a patient with pooling of secretions unless tracheotomy is done first, for the action of the respirator would cause aspiration of secretions into the lungs. Eighteen of the very severe patients were placed in the respirator following tracheotomy, and 16 of the 18 cases were put in the respirator by the end of the fifth day. Three patients expired before being placed in the respirator, and 8 of the 18 respirator patients subsequently died. Figure 3 enumerates the above data and also indicates the length of time each patient remained in the respirator.

In general, bulbar symptoms tend to clear fairly rapidly with restoration of functionally adequate muscle strength. In the very severe group, 8 of the 10 surviving patients have recovered swallowing so that tube feeding is no longer necessary. Two of this group are still being tube fed after more than four months. Of the 16 severe patients, only 14 were adequately recorded, and of these all regained swallowing by the twenty-fourth day of the illness. Examination still reveals weakness of the palate and pharynx in most patients, but the swallowing mechanism is adequate from a functional standpoint.

Complications in the bulbar group consisted of 8 cases of epistaxis and 3 cases of gastric hemorrhage, all of which occurred in the severe or very severe group. The most troublesome complication was atelectasis and pneumonia, usually secondary to aspiration.

Eleven of the patients in the bulbar group expired. Percentage of those who died related to various groups is shown in Chart 12.

CHART 12			
Number of patients who expired	Group	Number of cases	Per cent
12	Total group	609	1.97%
11	Total bulbars	121	9.1%
11	Lower bulbars	103	10.6%
11	Very severe	21	52.4%
11	Tracheotomized	19	57.8%
1	Diaphragm	10	10.0%

Figure 4 shows the day of death in the eleven patients that died and the autopsy findings on the ten post-mortems that were obtained. The pathological findings in the nervous system were omitted because the changes found were consistent with those in any pathology textbook.

ENCEPHALITIC

There were three patients with encephalitic symptoms. These presented no problem in management, and the acute symptoms subsided within several days. Two of the patients had facial weakness associated; one had weakness of one arm.

Patient	Day Into Respirator	Day Out of Respirator	Number of Days in Respirator	Died
1	2			x
2	3			x
3	3	36	33	
4	3	20	17	
5	3			x
6	3			x
7	4	14	10	
8	4	Not out after 4 mos.		
9	4	Not out after 4 mos.		
10	4	18	14	
11	4			x
12	4			x
13	4			x
14	5			x
15	5	25	20	
16	6	12	6	
17	5	10	5	
18	8	24	16	

Fig. 3. Data on patients who were put into the respirator.

UNUSUAL CASES

In our series, several unique and interesting cases were seen; brief descriptions of them are as follows:

1. A four year old white female entered as a known cerebral palsy patient. She had typical poliomyelitis with paralysis of her left arm. In reply to a recent query to the editor of the *Journal of the American Medical Association* it was stated that no case of polio in a patient with cerebral

	Patient Number										
	1	2	3	4	5	6	7	8	9	10	11
Myocarditis	x				x		x		x		
Pulmonary Hyperemia	x	x	x	x		x		x	x		
Pulmonary Edema		x	x			x			x		
Pulmonary Hemorrhage	x	x									
Bronchopneumonia	x				x						x
Atelectasis			x					x			
Cloudy Swelling of Liver			x								
Pulmonary Artery Thrombosis				x							
Pulmonary Infarcts				x							
Splenic Hyperplasia				x					x		
Cloudy Swelling of Kidney			x								
Acute Mesenteric Lymphadenitis									x		
Cardiac Dilatation											x
Passive Congestion of Lungs, Liver and Spleen											x
Erosion of Esophagus											x
Not Obtained										x	
Day of Death	6	5	14	8	3	5	5	5	2	4	77

Fig. 4. Autopsy findings. Pathologies of the nervous system have been omitted.

palsy had ever been reported in the medical literature.

2. A four year old white male had poliomyelitis in 1950 with residual weakness of the abdominal muscles. He had typical polio in 1952 with paralysis of his hip adductors resulting. Apparently this represents infection with a different strain of the virus.

3. A twenty-one month old white female was exposed to infectious hepatitis and gamma globulin was given. Three weeks later she had an onset of polio, with paralysis of the left leg.

4. A three year old white female was admitted as a case of meningitis. Weakness of the legs, arms, and intercostals was noted five days after the onset of her illness. She appeared to be in the



recovery phase with only minimal weakness when, one month after initial paralysis, she developed sudden marked weakness of both legs.

5. A ten day old white male had onset of the disease at five days of age; his mother had symptoms of polio on the second post-partum day. The babe developed marked weakness of all four extremities and diaphragm. The mother's spinal fluid count was negative and stool cultures from both the mother and babe were negative. Although no laboratory evidence, other than an elevated spinal fluid cell count, is available, this is thought to be one of the youngest patients ever afflicted with polio.

6. A two year old white male entered with a flaccid left arm and a left facial paralysis. He developed hyperthermia, irregular respirations and mottling, and expired on the fourth day of the disease. This was thought to be our one and only case of respiratory and circulatory center involvement.

#### SUMMARY

1. An analysis is made of 609 cases of acute poliomyelitis that were cared for at Blank Memorial Hospital, during 1952.

2. The incidence of the disease in relation to month of admission and to age and sex is presented.

3. The most frequent presenting complaints are analyzed and tabulated as to relative frequency.

4. The relationship of immunizations and tonsillectomy to paralysis in poliomyelitis is studied.

5. The important physical findings are discussed and the temperature records of the patients are analyzed.

6. A summary of the pertinent laboratory findings is made.

7. The non-bulbar group is discussed with special emphasis being placed on care and management of those patients with intercostal and/or diaphragmatic involvement. The residual of the paralytic patients, on discharge and at the most recent follow-up is presented.

8. The bulbar group is discussed with special reference to our low mortality rate and the methods by which it was achieved.

9. The encephalitic group is briefly discussed.

10. Unusual cases encountered in our series are described briefly.

#### BIBLIOGRAPHY

1. Bodian, David: A reconsideration of the pathogenesis of Poliomyelitis, *American Journal of Hygiene* 55:414-438 (May) 1952.
2. Glaser, D. F.: Tracheotomy in Bulbar Poliomyelitis, *Journal of Pediatrics* 27:560-564 (December) 1945.
3. Minnesota Poliomyelitis Research Commission. Bulbar forms of Poliomyelitis. I. Diagnosis and correlation of clinical with physiologic and pathologic manifestations. *J.A.M.A.* 134:757-762 (June 28) 1947.
4. Minnesota Poliomyelitis Research Commission. Bulbar forms of Poliomyelitis. II. Therapeutic measures based on pathologic and physiologic findings. *J.A.M.A.* 135:425-428 (Oct. 18) 1947.
5. Mitchell, J. R., and Hill, L. F.: Tracheotomy in Bulbar Poliomyelitis, *Journal of Iowa Medical Society* 40:471-9 (October) 1950.
6. Galloway, T. C., and Seifert, M. H.: Bulbar Poliomy-

elitis: Favorable results in its treatment as a problem in respiratory obstruction, *J.A.M.A.* 141:1-6 (Sept. 4) 1949.  
7. Queries and Minor notes: *J.A.M.A.* 150:1362 (Nov. 29) 1952.

### REHABILITATION IN SEVERE POLIOMYELITIS

MILAND E. KNAPP, M.D.

MINNEAPOLIS, MINNESOTA

REHABILITATION OF THE poliomyelitic patient commences during the acute stage of the disease. Treatment with the eventual rehabilitation of the patient in mind should be started as soon as the diagnosis is made. Certain phases of treatment, especially the prevention of contractures, cannot be done as efficiently later in the course of the disease. It cannot be overemphasized that relief of muscle tightness should be as complete as possible and should be accomplished as early as possible. The patient should not be allowed to lose his motor-activity pattern at any time, and muscle re-education directed toward the maintenance of motor pattern and of maximal coordination, regardless of muscle strength, should be carried out in great detail from the beginning.

It has been customary in the past to center attention upon strength in poliomyelitis and to use estimations of strength as the sole criteria for recovery of the patient, without taking into account the other factors which are equally important in the total functional picture. As a matter of fact, coordination is much more important than strength for useful function, provided there is some degree of strength present. This is even truer in the severely paralyzed patient than it is in milder cases.

#### RESPIRATOR PROBLEMS

In the patient who has had respiratory failure added to the other difficulties in poliomyelitis, many additional problems are created. It is just as important to carry out treatment for muscle tightness as well as weakness in these patients as in the non-respiratory patient, but the treatment becomes infinitely more complicated because of the difficulties of carrying out treatment in a respirator. However, every effort should be made to be sure that the very best possible care of the extremities and trunk is carried out in spite of the patient's being in a respirator. Of course, measures which would be hazardous to life must be dispensed with, but in most cases treatment can be carried out fairly effectively if enough effort is put forth by the personnel. An experienced therapist can carry out many of the usual treatment procedures working through the port-holes in the respirator, even though the patient cannot be removed from it. Hot packs can be applied and re-education procedures can be carried out. However the packs will not be as efficient, and full range of motion cannot be obtained within the tank-type respirator. This is particularly true

of the arm, so that one of the common and severe complications of the respirator patient is adduction contracture of the shoulder. This is important because cases having intercostal involvement almost always have upper-extremity paralysis and tightness of fairly severe degree as well. Footboards have been designed which can be adjusted to the patient's length in the respirator and which work just as efficiently as the footboard out of the respirator.

The importance of gaining length and overcoming muscle shortening of the intercostal muscles should be emphasized. This is often forgotten or not recognized by those caring for respirator patients. The shortening of intercostal muscles interferes with respiration just as shortening of extremity muscles interferes with function. Methods of stretching these muscles over a long period of time should be carried out persistently, even though the progress seems to be very slow, for in this way the eventual respiratory capacity of the patient may be increased sufficiently so that he can be permitted out of the respirator permanently. It is also important to avoid the use of sedatives which depress the respiratory center. Even though the patient may be restless or complain of pain, such sedatives as morphine or demerol should be avoided completely.

Respiratory failure, of course, complicates the later treatment of disabilities because of easy fatigability. Most of these patients have a low respiratory reserve and a very much reduced vital capacity. Many times the chest expansion will change only a quarter inch during maximal respiratory effort. This, of course, interferes greatly with attempts to increase muscle strength in the extremities and to restore the patient to functional ability.

It is often much more difficult for the patient to breathe in the sitting position than in the lying position. This is especially true if he has to use accessory muscles of respiration such as the sternomastoids or the strap muscles of the neck and the platysma to assist respiration. It is very difficult to obtain useful function in a patient who cannot maintain a sitting position for more than a few minutes at a time.

#### POST-POLIO REHABILITATION

The term "rehabilitation" is usually reserved for the later stages of the disease and for those patients who are severely paralyzed. When considering a patient for rehabilitation it is essential that one make a careful examination and take a complete history. Consideration should be given to the presence of muscle shortening or contractures which may interfere with function and to the distribution of strength and the degree of muscle strength present in the various portions of the body. The patient's intelligence, ambition, and previous history of cooperation or non-cooperation in the course of treatment should be taken into

consideration because all of these factors will affect the final result. Then, a goal should be selected which is possible of attainment within a reasonably short period of time. I have usually chosen a period of three months because it is not difficult to keep the patient's cooperation for that length of time, and if he then can see that definite improvement has been obtained, he will be willing to carry out the advice of the doctor as to future plans.

This goal should be one which is possible of attainment and does not necessarily represent the ultimate goal of treatment. For instance, if the patient is a severe quadriplegic for whom it is thought that walking with or without braces may eventually be a possibility, it may be necessary to set improvement in strength of the upper extremities and learning of the activities of daily living from a wheelchair as the first goal in preparation for crutch walking, since it is extremely important that good strength in the depressors of the shoulders and the triceps should be obtained before crutch walking is attempted. When the goal set for the upper extremities is obtained, the patient can be discharged for a period of time to practice what he has learned and to gain maximal strength and then he can be readmitted at a later date for further training, at which time it may be possible to start crutch walking.

The psychologic problems and the morale of the patient should be kept in mind at all times. Anyone who has a severe disability is likely first to go through a phase where he feels that he is going to recover completely and then, when he realizes that this is not true, he may reach a period of depression which will interfere greatly with treatment. If, however, he can be encouraged across this period of depression, he then may reach a level of sane optimism with a realization of what his problems are to be, and can reach an eventual mental adjustment which will help a great deal in the final restoration of function to the patient. I do not believe in telling the patient the worst at any time. I think it is important that his morale be kept at as high a level as possible in order to obtain the best results. I do not try to predict the end result, because the more experience I have with the follow-up of poliomyelitis patients, the more I realize that if the patient is able to be active and if measures are taken so that he can carry out useful function, he *never ceases to improve*. If the doctor makes some rash statement such as "You will never walk again," he is just as likely to be wrong as right, and the patient feels that the doctor is working against him because of that prediction. Attempts at prognosis are dangerous in poliomyelitis.

In the planning of a rehabilitation program, a careful evaluation of muscle shortening and contractures is important. Many times these phenomena make a function impossible which could be quite useful were the contractures not present. Probably



the worst type of contracture is a hip-flexion contracture, whether it is due to shortening of the flexor muscles or the joint capsule or whether it is a tensor contracture with a flexion and abduction position. When such a contracture occurs, it tends to produce loss of balance at the hips and especially when the hip extensors are weak, as they usually are, the buttocks tend to fall posteriorly. The patient tries to correct this by bending the trunk forward with an increased lordosis in order to get into an erect position, and he then is walking with a nearly quadruped type of gait. If he attempts to straighten his hips, he loses extension at the knee, his knee flexes and gives way. Treatment by various types of heat application and consistent stretching should be carried out, but is not usually very effective in the late stages. Where the tensor fascia femoris is at fault, a tensor fasciotomy can be done. If the contracture involves the hip joint itself, the problem is more complex, the surgery is more difficult, and the likelihood of recurrence is greater.

As aids in stretching contractures in any location, pulley arrangements may be made so that a portion of the body which is strong may be used to stretch the contracture elsewhere. The patient can then carry out the stretching himself without requiring treatment time by the staff of therapists.

Contractures also occur in other locations. A fairly common one is in the gastrocnemius-soleus muscles where the patient walks upon his toes. This may sometimes be corrected by the use of wedging casts, but often surgical division is necessary. This is best done in the muscle itself, rather than as a heel-cord lengthening. Sometimes a flexion contracture of the knee can be overcome by a posterior capsulotomy. In the hand, where these contractures also occur frequently, since surgical methods are not as effective, gradual stretching may be necessary, either with manual force or by the use of splints which exert a constant pressure.

Careful evaluation of the muscle strength present in the patient and the possibilities of improving muscle strength should also be carried out. Each patient presents an individual problem which must be solved for that individual patient.

In general the relative importance of muscle strength follows somewhat the following order. The most important muscles in which to have strength are in the trunk. If the trunk has moderate power so that an upright position can be maintained without tiring too quickly other functions will be improved accordingly.

Second in importance are the upper extremities. The most important muscles of the upper extremities are in the hand, because function of the hand is necessary in order to carry out any type of handicraft. Next comes the ability to flex the elbow in order to bring the hand off the table, to lift things up to the mouth, etc. Third in im-

portance are the shoulders, and of the shoulder muscles, the depressors are the most important—particularly if crutch walking is to be part of the picture. The abductors of the shoulder are much less important, but, of course, are necessary to the lifting of objects and placing them at a higher level.

Muscle strength in the lower extremities is less important, but of all the muscles in the lower extremities, the most important ones for walking are the hip extensors. This means both the gluteus maximus and the hamstrings. They stabilize the trunk to the thigh, so that walking is much facilitated by having strong hip extensors. Following these, the other thigh muscles are of importance in walking. Hip flexion is a detriment when hip extension is not present. Abduction and adduction for stabilization are quite important. Least important for walking of all the muscles of the thigh is the quadriceps. The muscles below the knee are of less importance than the ones above the knee because they can be replaced by the very simple operation of subastragular arthrodesis.

Heavy resistance-low repetition exercises are used to increase strength. We follow very much the procedure advocated by DeLorme and feel that it definitely is a useful technique. It must be persisted in, however, over quite a period of time in order to get definite results.

For the development of endurance, high repetition-low resistance exercises are effective. Occupational therapy is particularly useful in this area.

I might mention some special methods that we have found to be particularly effective in certain conditions. In those patients who have tightness of the back we have found that the use of a wheelchair of the old-fashioned, clumsy, wooden type with big wheels in the front has helped to loosen the back muscles if arm strength is present, because the patient bends forward and carries out quite a bit of flexing his back in propelling the wheelchair. This provides an exercise which is done for long periods during the day, rather than a short-term exercise. It is my opinion that the back should be loosened regardless of the amount of weakness present, if it can be done without forced stretching. If forced stretching is necessary, it is frequently found that the tight, fibrous tissue gives way at one particular area and then more stretching causes a further tear at that area and results in a scoliosis. If the treatment is started in the early stages of the disease—that is, within the first few months—it can be effective; but if stretching is tried at a late date, it is more likely to produce scoliosis than to relieve it.

The problem of scoliosis, of course, is a severe one, and one which cannot be discussed in this paper. However, I should mention that most corsets neither correct scoliosis nor prevent it, and in my mind it is doubtful whether they even slow down the development of the scoliosis. They



do offer a certain amount of support to the abdominal muscles and often give the patient a feeling of security and relief which is quite useful.

The use of sling suspension, either attached to a wheelchair or to a back brace or to the ceiling of the room, is a useful adjunct in developing strength and skill in the upper extremities when the ability to abduct the arms is absent or very weak. It should be kept in mind however, that if more than enough weight to counterbalance the weight of the arm is used, the patient may carry out essentially only exercises of the adductors of the shoulder because the weight is sufficient to carry out abduction and the patient thus carries out the movement with his strong muscles. Since the adductors are usually the strong muscles, it may accomplish the opposite of what was intended.

We have devised a light functional opponens splint which has been useful in many cases.

In considering problems of the lower extremities, I would like to say first that walking often is a goal which is better not attempted than done so poorly that it is not practical. If walking is to be practical, it must be possible for the patient to get up from a chair to the erect position by himself. He must be able to traverse a suitable distance in a satisfactory length of time with reasonable security, and he must be able to step over obstructions, to go up or down curbs at least, and preferably to go up and down stairs. If a person cannot do any of these things adequately, it is probably better for him to plan on a wheelchair existence, using standing and walking only for physiologic reasons or for exercise. It is often difficult, however, to get a patient to accept this philosophy, but he will usually come to the realization that such is the case after a sufficient period of time. For walking with braces to be satisfactory, the patient must have either enough power in the upper extremities to handle sticks or crutches, enough power in the trunk to elevate the hips and stabilize in walking, or enough power in the lower extremities to carry out elevation activities. If braces are to be used, a satisfactory brace must be prescribed. The type of brace, of course, will depend upon the amount of disability and the type of disability present. In general, the ideal brace should be as light as possible, the joint should work freely and lock securely and be simple, so that repair and adjustments will be at a minimum. We have used a flare-type ischial rest which is merely an extension of the upper cuff which is quite comfortable and efficient. Any standard type of knee lock is satisfactory. The drop locks are the simplest, but the patients complain of them a great deal because of the wear and tear on clothing and the difficulty in locking them if there is a small degree of knee flexion contracture present. Automatic locks of the bow type or others are often satisfactory, particularly if bilateral, long leg braces must be used. Care

must be taken that the knee extends completely. To do this the posterior cuff must be deep enough so that the knee can obtain complete extension. Most braces are made with a slight degree of flexion which, I believe, is harmful, since it tends to produce a slight knee-flexion contracture. Many patients who have worn braces for years cannot walk without them merely because of the knee flexion contracture present. Usually a patellar strap is necessary if complete knee extension is to be obtained. I like an ankle joint rather than the caliper type of brace because it seems to be more anatomically functional. A Klenzak ankle joint can be used if there is gastrocnemius power present, but should not be used if the gastrocnemius is zero in power or if the heel cord is excessively tight. The Klenzak spring is not strong enough to overcome contracture and adds a complication which needs replacement and readjustment frequently.

We usually start out by teaching the patient a four-point gait. This is a useful gait for small areas such as in the house, moving about the kitchen, etc., and is a very great advantage to a patient who otherwise has to use a wheelchair for practical locomotion. The swing-through gait is much more rapid and covers territory faster and is more practical for outdoor walking. Both types should be taught if feasible for the individual patient. If a pelvic band or Knight spinal brace or some other such device involving the trunk must be used in combination with the leg braces, the gait usually becomes impractical. The patient may be able to walk, but usually cannot get out of the chair himself, and so is not a suitable patient for walking as a practical means of locomotion. If the patient is able to walk with two long leg braces, it is essential to teach him how to fall and how to get up from the floor. This can be done fairly easily. The technic has to be adapted to the individual patient's strength situation. Methods of going up and down curbs should be taught, and methods of going up and down stairs, too.

A great deal of time is spent teaching the activities of daily living. Such things as brushing the teeth, washing the face, feeding one's self, getting on and off the toilet seat, getting in and out of the bathtub, rolling over in bed, getting from bed to wheelchair and back again must be practiced hours on end until the patient is able to do it efficiently. We have found that the nursing staff and attendants on the rehabilitation floor must be trained to allow the patient to help himself. It is often very difficult to stand by and watch the patient struggle through a procedure which takes him ten or fifteen minutes when you could help him accomplish it with one little motion which would take only a few seconds.

Occupational therapy is extremely useful on the rehabilitation floor since exercises can be carried out which will be maintained over a long



period of time because the patient is interested in doing them. Skills can be attained and trained and the ability of the patient to carry out certain fundamental skills can be determined, thus aiding in evaluation of the patient's ability to be trained for a suitable job.

In conclusion I would like to emphasize that if enough thought, time, effort, and inventive genius are applied to rehabilitation procedures, the functional ability of even the most severely paralyzed poliomyelitis patient can be improved to some degree and most of them can be made essentially independent.

SUMMARY

- 1. Rehabilitation should start with the diagnosis of poliomyelitis.
- 2. A goal that is possible of attainment within a reasonable time should be selected.
- 3. Methods of attaining that goal are discussed.

PRESENT DAY MANAGEMENT OF ERYTHROBLASTOSIS

D'ANNETTE SNYDER, M.D.\*  
DES MOINES

THE SUCCESSFUL present-day management of erythroblastosis in the private hospital depends largely upon knowledge and observation, and not upon difficult or unusual methods of diagnosis or treatment. At Blank Hospital, Des Moines, exchange transfusions have been used in the treatment of erythroblastosis for a period of five years. Our results have compared favorably with those of others, and our conclusions and methods, which have been continually modified by new facts, are now presented.

From January, 1948, to January, 1953, 57 cases have been diagnosed and treated. Of these, 21 were born in the adjacent obstetric department and were followed from birth; the remaining 36 were admitted from other hospitals here and elsewhere at ages ranging from 3 hours to 6 weeks, most of them being in the first 48 hours of life. Of the total, 28 were treated with exchange transfusions, 22 were treated with single whole blood transfusions, and 7 with sedimented cell transfusions.

In the three groups there were a total of 9 deaths, 5 of the 28 exchanged, 3 of the 22 given single transfusions, and 1 of the group treated with sedimented cells; this is a total mortality of 15 per cent. The following causes of death are shown.

Fetal hydrops (treated by exchange) . . . .	3
Acute Passive Congestion (exchange followed by single transfusion) . . . . .	1
Clinical kernicterus (single whole blood transfusions at age 2 days; kernicterus at autopsy) . . . . .	3
Clinical kernicterus (sedimented cells; ker-	

nicterus at autopsy) . . . . .	1
Unexplained death, apparently aspiration of vomitus, 2 days after exchange; no autopsy . . . . .	1

The three who died following single transfusions were first seen on the second day of life, and under present criteria would have been treated with exchange transfusions; this was in 1948-49, and, since then, the screening has apparently been more accurate with no further deaths due to this cause.

During the last year the reports of Wiener and Wexler<sup>1</sup> and Pennell<sup>2</sup> suggested the use of packed cell transfusion in place of exchange. Seven patients were treated with transfusions of sedimented cells. Three of these patients, seen in the first 12 hours, had marked clinical erythroblastosis; 2 survived the procedure without sequelae; the third expired with clinically diagnosed kernicterus on the second day, and the diagnosis was verified at autopsy. The other four patients so treated were first seen at 3, 4, 4, and 9 days of age with moderate to marked anemia and definite clinical history of erythroblastosis. These were patients who ordinarily would have received simple whole-blood transfusions. We have continued the use of sedimented cells in this way, i.e., for milder cases in which the anemia is a prominent feature of the disease, usually in those patients first seen after a few days of life. We no longer consider this as a treatment for acute erythroblastosis.

DIAGNOSIS

According to Diamond<sup>3</sup> the diagnosis of erythroblastosis depends on the demonstration of sensitized red cells in the baby as ordinarily done by the Coombs test; this, he says, is invariably positive if properly done, except in ABO incompatibility. In our 57 cases, there were 15 with negative Coombs tests and 9 in which the test was not done; thus, in nearly half the cases, this test was not used in establishing the diagnosis. The diagnosis was made, however, by demonstrating blood type incompatibility associated either with a clinical picture of erythroblastosis in the first few days of life, or with a rapidly progressing anemia in the first few weeks of life. When the Coombs test was negative, confirmatory evidence in some cases consisted of elevated maternal antibody titers. Three were thought to be definite ABO incompatibility.

Some degree of anemia was always present, but it varied markedly from the clinical picture in several cases. The nucleated RBC count was elevated over 22 per 100 WBC counted in approximately 50 per cent of the cases. This is considered an unreliable sign of erythroblastosis because it can be influenced by so many other factors<sup>3, 4</sup>; a normal number is 0 to 10. According to Pickles,<sup>5</sup> reticulocytes are more consistently elevated and remain so for 2-3 days, even after treatment.

\* Resident in Pediatrics, Blank Hospital.

In the cases studied, serum bilirubin levels were checked only in a few isolated instances; serum bilirubin in normal babies is rarely over 10 mg. per cent in the first 24 hours; the average serum bilirubin in erythroblastosis is over 15 mg. per cent and may go to 50-60 or higher<sup>3</sup>; it is higher in prematures and probably also in males, according to Diamond. Both Diamond and Pickles have studied cord-serum bilirubin and, although there is some overlapping with the normal, it is usually over 3 mg. per cent in the presence of erythroblastosis.<sup>5, 6, 7</sup>

Clinically, one sees jaundice appearing in the first 24 hours, with or without hepatosplenomegaly, which may not be detectable even when the hemolytic process is severe. Edema and petechial hemorrhages have been present in a few of our most severe cases. Early nonspecific signs of kernicterus include lethargy, disinterest in feedings, opisthotonus, or extension rigidity with inward rotation of the arms<sup>3</sup>. In an infant with lethargy, poor color and respirations, it is sometimes difficult to distinguish signs of birth injury from early evidence of kernicterus. However the signs of kernicterus usually do not appear in an infant in whom jaundice is not evident by the age of 12 hours and must be of a severe degree at some time in the clinical course.<sup>3</sup>

No disease can be established unless blood-type incompatibility can be demonstrated. Of our 57 cases, maternal blood was Rho negative (D) in 54 cases, Rh' (C) negative in one, Rh''(E) negative in one, and Rh positive, Type O in one. Fifty-three infants were Rh positive, and 3 were Rh negative, one being the Type A infant of the O positive mother.

ABO differences are said to be responsible for about 20 per cent<sup>3, 10</sup> of the cases of erythroblastosis, and the diagnosis is made by the clinical evidence of diseases associated with demonstration of ABO incompatibility between mother and babe, and a negative Coombs test.

Demonstration of Rh incompatibility offers more problems because of the various types of Rh antigens which may be involved. Eighty-five per cent of bloods contain the Rho (D) antigen; most of these contain, in addition, the Rh'(C) antigen or Rh''(E) antigen, or both; only 2 per cent contain Rho alone, and 1-2 per cent contain Rh' alone.<sup>4</sup> Therefore most antibodies are developed against all or both antigens present, and the more common types of testing serum will contain two types of antibodies. Such serum may demonstrate that blood is Rh positive when actually it is positive only for one antigen and negative for the other, so that sensitization could occur in a person who seemed to be Rh positive. Sub-typing can be very important in establishing the diagnosis in less obvious cases, where blood studies do not apparently bear out the clinical diagnosis of erythroblastosis.

Antibody tests demonstrate two types of antibodies produced by the Rh antigens; these are commonly designated the "blocking" antibodies and "agglutinins," and are different immunologically, physically and chemically. The agglutinins are circulating antibodies which will agglutinate Rh positive cells in a saline solution. Blocking antibodies may be circulating or may be attached to Rh positive cells but do not agglutinate these cells unless some protein substance is added (e.g., 20 per cent bovine albumin, antihuman-globulin serum from rabbits). When a blocking antibody is attached to red cells, it prevents the action of agglutinin and for this reason is called a "blocking" antibody.

The Direct Coombs Test demonstrates the presence of blocking antibodies, as in the infant's blood, and is done by washing these cells and adding the Coombs antihuman-globulin serum. Agglutination indicates the presence of blocking antibodies (specific instructions important).<sup>3</sup> The Indirect Coombs Test demonstrates the presence of blocking antibodies in the serum, maternal or infant, which is combined with known Rh positive cells; the serum is then removed, the cells washed, and tested as in the direct Coombs test.

Demonstration of agglutinins is done merely by combining unknown serum with known Rh positive cells in saline.

These fundamental tests give a working knowledge of the factors to be dealt with; others are available but are neither practical nor useful in general.

#### TREATMENT

Exchange transfusion is a treatment which has been evolved to accomplish the following aims:

To correct the baby's anemia by replacing cells without dangerously increasing the blood volume.

To remove large amounts of free antibody (up to 25 per cent.)

To remove the excessive and potentially damaging products of hemolysis believed to cause kernicterus.

To remove the infant's potentially hemolyzable red blood cells before massive intravascular hemolysis can occur.

Furthermore, transfusion depresses erythropoiesis and the production of the infant's dangerous cells. It therefore becomes important to decide which of these infants will most likely have a dangerous degree of hemolysis and risk the development of kernicterus unless they are treated by an exchange transfusion.

Conditions which led to exchange in our 28 infants were:

Jaundice in the first 12 hours .....	14
in the second 12 hours .....	7
Total in first 24 hours .....	21



Anemia, severe in the first 24 hours ...	13
rapidly progressing in 2 days .....	7
Total with marked anemia .....	20
Nucleated RBC count, most over 100 per 100 WBC counted .....	23
Coombs test positive .....	18
Hepatosplenomegaly .....	16
Erythroblastosis in previous child .....	6
Lethargy, cyanosis, respiratory distress ....	5
Generalized edema with petechiae at birth (hydropic) .....	3

The most important single criterion seemed to be the development of jaundice in the first 24 hours, and many of these developed jaundice in the first 6 hours. This was true except for the 3 hydropic infants, and 3 of the 6 with previous history of erythroblastosis in the family who were not given the opportunity to develop jaundice. The exceptions also included 2 infants in the group with cyanosis and respiratory distress who seemed to have no good reason for exchange except for the presence of blood incompatibility, in one, and an elevated maternal antibody titer in the other. Diamond considers that a maternal antibody titer of 1:16 or over is an indication in itself for exchange<sup>3</sup> but adds that some of these babies will be in no danger of getting kernicterus if left untreated. Such a titer carries a high risk of severe jaundice with a resultant significant danger of kernicterus, but if jaundice has not become evident by the age of 12 hours, kernicterus is unlikely to follow, and exchange is probably not necessary. Of our 57 cases, 15 had known maternal antibody titer elevations of 1:16 or over; of these 15, five were in the group exchanged, and 10 were treated by single transfusions. There was one death in each of these groups.

The question is to estimate whether bilirubinemia is going to develop rapidly and/or intensely. This is dependent upon liver function, which is fairly adequate in the normal mature infant where physiological jaundice rarely produces levels of bilirubin over 10 mg. per cent<sup>3, 7</sup>; levels above this would indicate that liver function is being overtaxed<sup>10</sup> and dangerous amounts of the products of hemolysis may remain in the circulation. Clinical jaundice lags several hours behind serum bilirubin, so that, if the bilirubin has not risen beyond 10 mg. per cent in the first 12-24 hours, the chances of kernicterus are very unlikely.

We think therefore that the indications for exchange transfusions can be stated:

1. Blood-type incompatibility and a positive Coombs, even in the absence of clinical jaundice, when there is a history of erythroblastosis in the previous child.
2. Early onset of jaundice in presence of blood-

type incompatibility, regardless of the Coombs test; i.e., jaundice within the first 12 hours or bilirubin above 10 mg. per cent in the first 12 hours.

#### USE OF SINGLE TRANSFUSIONS

When exchange transfusion is not indicated, the problem of further treatment still exists and depends on the level of anemia itself. Of 22 patients treated by single whole-blood transfusions, 9 were admitted in the first 2 days of life, and 13 were admitted at 3 or more days of age. The second group all had marked anemia and histories compatible with erythroblastosis; complete blood work was not always available; all recovered. Of the first group, most had a history of early onset of jaundice and showed rapidly progressing anemia to as low as 5 Gm. per cent hemoglobin; all received one or more whole blood transfusions, and 3 expired as previously described.

The blood used has been type O Rh negative to which has been added Witebsky's purified A and B substances; there has been no record about the sex of the donor. In severe anemias, blood is given at 5 cc. per pound initially, followed by later transfusions at 10 cc. per pound. The use of sedimented cells in these quantities has reduced the average total number of transfusions necessary, in our small series, from 3.2 to 2.2 per patient. Pickles<sup>5</sup> points out that 120 cc. of glucose citrate diluent reduces the RBC count to 3.5-4 million per cubic mm and he removes 150 cc. supernatant plasma to bring the RBC level back to normal routinely. We have been able to remove as much as 300 cc. of plasma to obtain sedimented cells after the blood stands overnight.

#### THE EXCHANGE

Our procedure for exchange is, for all practical purposes, that described by Diamond<sup>8</sup> and is carried out under sterile conditions in the treatment room of the infants' ward. Materials are kept in sterile packs available for immediate use. The area about the umbilicus is prepared as for surgery and draped; the cord is cut about one-half inch from the skin and the umbilical vein is identified; any clots present are removed. The vein is cannulated directly with polyethylene tubing (Clay-Adams, large size, admitting a #15 needle) for about 5-6 cm.; a cord tie is placed around the stump of the cord to hold the tubing in place; a #15 needle is inserted into the tubing, and to this needle are attached two 3-way stopcocks in tandem. To the one nearer the babe, a sterile plastic discard tubing is attached leading to waste; to the one nearer the operator are attached a 20 cc. syringe and the donor blood. The venous pressure is measured with a small sterile centimeter rule and blood is withdrawn and discarded (10-20 cc.) so as to obtain a venous pressure reading of not more than 6 cm, as described by Diamond.<sup>3, 8</sup>

Twenty cc. increments are then withdrawn, discarded, then admitted from the donor set, and

transfused, exchanging approximately 500 cc. of whole blood, on the basis that this exchanges 86.47 per cent of the baby's blood<sup>1</sup> and that greater amounts do not increase the percentage exchanged appreciably. Syringes may need to be rinsed out occasionally with saline, and the entire system is rinsed out every 100 cc. before and after calcium gluconate is added. We use 2 cc. increments of 10 per cent calcium gluconate at these short intervals as a result of electrocardiographic studies done during exchange transfusions here by Gustafson.<sup>9</sup> Venous pressure is checked a time or two during the procedure, and there is usually a deficit of 10-40 cc. of blood when it is last measured at the end. The baby is kept in an oxygen hood and under constant observation, and the entire procedure rarely takes more than an hour and a half.

Penicillin is given prophylactically for several days. Vitamin K is given, although it is said to have little effect on the prolonged bleeding and coagulation times found in erythroblastosis, usually attributed to depressed liver function and failure of the infant to form prothrombin. In severe forms of the disease, platelets may be very low—100,000—with few seen on the stained smear. The cord is kept moist with sterile normal saline for about 48 hours while the course of the babe is observed for the necessity of repeat transfusions. Feedings are started in the next 24 hours, as tolerated by the babe, and breast feedings are allowed, on the basis that antibodies are no longer absorbed through the intestines after the first 48 hours.<sup>3</sup>

#### FOLLOW-UP

Repeat exchange transfusions are probably indicated when intense jaundice or an excessively high level of serum bilirubin persists. Recently we have checked the serum bilirubin using Diamond's criterion of 20 mg. per cent<sup>6, 10</sup> as a level beyond which repeat exchange is indicated; fortunately we have had none to date.

Repeat single transfusions depend of course on the degree of anemia and how rapidly the count falls. Pickles has done extensive work on the course of the disease and on red cell regeneration.<sup>5</sup> He states that the disease process dies out after 3-6 weeks as the antibodies from the mother are used up. Complete regeneration of the patient's own cells may take as long as 60 days, but is steady and unrelenting, and if the hemoglobin doesn't fall too rapidly at first (it normally falls to 80 per cent by the 6th week) transfusions may not actually be necessary. After the acute hemolytic process (2-3 weeks) has stopped, the infant's blood picture becomes stabilized at about 50-70 per cent hemoglobin, and may maintain this level for about one to two months. However, in the second month of life, one may see a secondary anemia as a result of temporary aplasia of bone marrow following inhibition of erythropoiesis by transfusion in the neonatal period. Pickles studied

several cases showing sustained regeneration appearing between 20-35 days, while, in completely replaced blood, Rh positive cells only began to appear at the age of 6-7 weeks. Thus a gradual replacement of the transfused cells with the infant's own cells is going on steadily, and if he is thriving—eating well and gaining weight—withholding transfusion will prevent further bone marrow aplasia tending to delay recovery. Diamond<sup>3</sup> states that the hemoglobin not infrequently goes down to 6-7 Gm. per cent while the baby continues to do well. A marked rise in reticulocyte level may indicate that the oxygen-carrying capacity of the blood is low and has been considered as an indication for transfusion by Pickles.

Another important consideration in the follow-up care is what to tell the mother about future pregnancies. Before telling her that she can have no more *normal* babies, be sure that both her blood and her husband's blood are completely typed for CDE antigens. Also, be sure that your diagnosis has been correct, for, as Potter points out,<sup>4</sup> birth trauma associated with jaundice, thought to be due to absorption of blood pigment from intracranial bleeding, may mistakenly lead to a diagnosis of kernicterus and may not be kernicterus at all, thus not influencing subsequent pregnancies. We believe this occurred in 2 of our cases. Furthermore, premature delivery is not recommended for future pregnancies if severe cases of erythroblastosis have occurred.

#### SUMMARY

Statistics have been presented from a private hospital for a five year period concerning the method of diagnosing and treating cases of erythroblastosis. A satisfactory and generally practicable method of exchange transfusion has been described. It is hoped that physicians will be able to identify and treat infants with severe forms of the disease with greater ease, even in small outlying communities.

#### BIBLIOGRAPHY

1. Wiener, A. S., and Wexler, I. B.: Use of Packed Cells in Exchange Transfusions, *Ped.*, 8:117-127, July, 1951.
2. Pennell, Samuel: Treatment of Erythroblastosis by Transfusion with Sedimented Cells, *Blood*, 5:107-122, February, 1950.
3. Diamond, L. K., and Allen, F. H., Jr.: Round Table Discussion, Erythroblastosis Fetalis, *Ped.*, 10:337-347, September, 1952.
4. Potter, E. L.: Rh—Its Relation to Congenital Hemolytic Disease and to Intragroup Transfusion Reactions, (Chicago, Yearbook Pubs., Inc., 1947).
5. Pickles, M. M.: Hemolytic Disease of the Newborn, (Oxford, England, Blackwell Scientific Publications, 1949).
6. Hsia, D. Y., Allen, F. H., Jr., Gellis, S. S., and Diamond, L. K.: Erythroblastosis Fetalis, VIII, Studies of Serum Bilirubin in Relation to Kernicterus, *NEJM*, 247:668-671 (Oct. 30) 1952.
7. Hsia, D. Y., Allen, F. H., Jr., Gellis, S. S., and Diamond, L. K.: Serum Bilirubin Levels in the Newborn Infant, *J. Ped.*, 42:277-285 (March) 1953.
8. Diamond, L. K., Allen, F. H., Jr., and Thomas, W. O., Jr.: Erythroblastosis Fetalis VII, Treatment with Exchange Transfusion, *NEJM*, 244:39-49 (Jan. 11) 1951.
9. Gustafson, J. E.: Electrocardiographic Changes in Exchange Transfusions, *J. Ped.*, 39:593-596, 1951.
10. Allen, Fred H., Jr.: Importance of Blood Groups in Laboratory and Clinical Medicine, *NEJM*, 247:379-383, (Sept. 11) 1952.



THE PROBLEM OF SEROLOGIC TESTING FOR SYPHILIS

ROBERT G. CARNEY, M.D.\*  
IOWA CITY, IOWA

ONE OF THE MOST persistent and annoying problems facing every physician today is the increasing number of false positive serologic tests for syphilis. This increase is both relative and absolute. With the rapid decline in the incidence of early syphilis, a gradual decrease in the overall incidence of syphilis is to be expected, causing a relative increase in the false positive reactions. During the past quarter century the sensitivity of the serologic tests for syphilis has been tremendously increased, and this has been accompanied by considerable concurrent diminution in the specificity of these tests, also resulting in more false positive reactions.

Determination of the meaning of positive serologic reactions, often in the face of a negative history and physical examination, is difficult at best and presents no easy solution. A full understanding of the meaning and the mechanics of the tests, and a knowledge of the known conditions which can produce positive serologic tests will relieve, but not entirely solve the problem.

\* From the Department of Dermatology and Syphilology, The State University of Iowa.

MEANING AND MECHANICS OF SEROLOGIC TESTS

During the course of an infection with *Treponema pallidum*, there appears in the blood an antibody-like globulin, termed *reagin*, which possesses the property of combining with finely divided mammalian tissue lipoids, specifically a beef heart antigen. In so combining with them precipitation or flocculation occurs, the basis for such serologic tests as the VDRL, Kline, Kahn and others. Diagram 1.

In addition, when the reagin and the lipoids combine, complement is fixed; this is the basis for such tests as the Wassermann and its Kolmer modification. Diagram 2.

Since the cow, the guinea pig, the sheep and the rabbit are not syphilitic, it becomes evident that there is nothing specific in the basic mechanics of the tests. The serologic test is, so to speak, a chance reaction which is remarkably specific in view of the non-syphilitic quality of the materials used in the test. This leads to one of the basic tenets in serologic testing: The tests are not, in and of themselves, wholly diagnostic. They are in truth diagnostic aids which must be fitted into the whole picture of the patient. In other words, the laboratory can only tell you how the blood reacts; it cannot say, "This patient is unequivocally syphilitic."

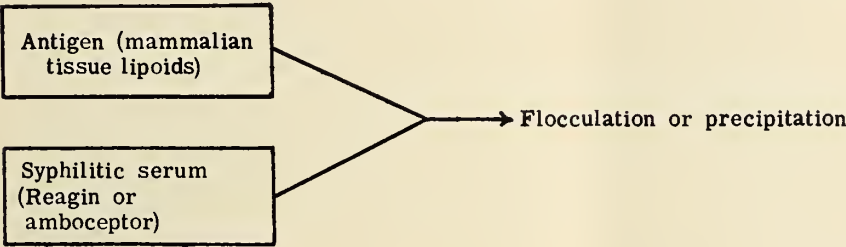


Diagram 1: Positive Precipitation or Flocculation Test.

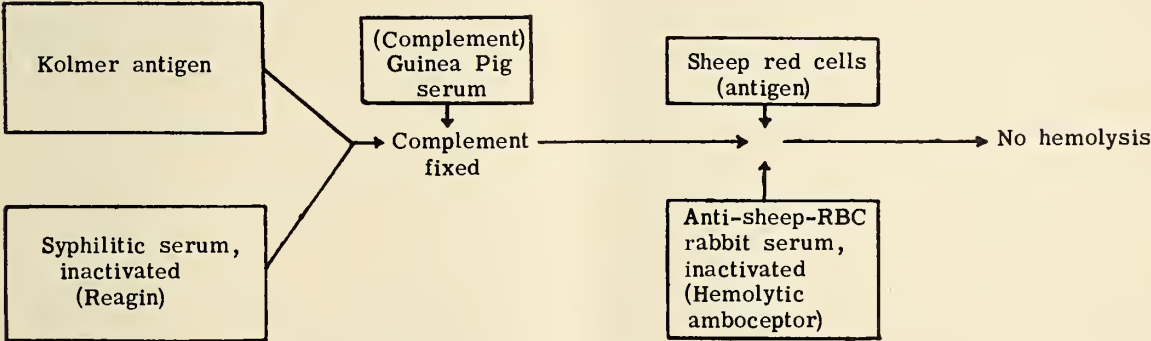


Diagram 2: Positive Kolmer Complement-Fixation Test

## SEROLOGIC TESTS IN SYPHILITIC INFECTIONS

Following invasion with the spirochete of syphilis, the infected person goes through an incubation period of from ten to ninety days, usually about twenty-one, and then develops the primary sore or chancre. At this time the serologic tests for syphilis are negative. Around the tenth day after the chancre appears, the tests begin to show positive reactions and there is a rapid gain in serologic titer during the next few weeks.

If no antisyphilitic treatment is given, about 75 per cent of infected individuals will remain positive throughout life, with or without symptoms or signs of active syphilis. The remaining 25 per cent will become spontaneously seronegative at some time in the future.

If adequate antisyphilitic treatment is given early, particularly within one year after the infection is acquired, 85 per cent to 90 per cent of these patients will become serologically negative within a few months; the others will require retreatment.

When treatment is delayed until later in the course of the disease, particularly until the infection is several years old, the serologic response to treatment will be very slow. In such persons the serologic tests may become negative only after an interval of several or many years. In some the tests will always remain positive, the so-called "Wassermann fastness." *Once adequate treatment (in accordance with accepted schedules) has been given, no amount of additional treatment will hasten the return to a negative serology.* The antisyphilitic drugs will eradicate the infection, but have no effect on the globulin *reagin*, which may remain in the blood for a long period of time after the disease has been cured.

In early syphilis the titers of the quantitative serologic tests are usually high, generally ranging from 1:32 to 1:256 or higher. In late syphilis the titer of the test does *not* mirror the activity of the disease. Generally titers in the range of 1:1 or 1:2 tend to suggest inactivity of the disease, but active late syphilis does occur with such titers. On the other hand we have seen titers as high as 1:2048 in syphilis of forty years' duration with no symptoms or signs of syphilitic disease.

For the benefit of those not familiar with the use of quantitative serologic tests, it might be well to note that the serologic tests will be reported in quantitative titers by the State Hygienic Laboratory in Iowa City, when the physician requests it and if sufficient blood is sent. The titers are reported in serial dilutions as 1:1, which indicates a positive reaction in undiluted serum only, 1:2, 1:4, 1:8, and so on. It should be emphasized that the "four plus" positive report means only that the undiluted serum reacted and that the test was positive at least 1:1. A blood positive in a dilution of 1:4096 would

also be reported merely as "four plus" by the non-quantitative test.

## OTHER DISEASES PRODUCING FALSE POSITIVE TESTS

It is well known that other spirochetal disease such as yaws, bejel and pinta routinely cause positive serologic tests. Such reactions are not properly considered false positives but are the expected serologic reactions of closely related diseases.

Many febrile diseases can produce positive serologic reactions, usually weak and short-lived but not always so. Infectious mononucleosis, malaria, virus pneumonia, influenza, mumps and the acute exanthemata do so commonly. Others, such as typhus and Rocky Mountain spotted fever, leprosy, Weil's disease, rat bite fever and relapsing fever, septicemia and disseminated lupus erythematosus, are less commonly involved in false positive reactions. Various immunizations, especially vaccinations against smallpox, can produce positive serologic tests.

Moreover, certain individuals seem to have an inborn tendency toward positive reactions, a tendency made stronger by the ingestion of protein. A number of such cases have been reported where negative serologic tests have been achieved by the use of a low protein diet.

## PROCEDURE WHEN TESTS ARE POSITIVE

When a routine serologic test for syphilis is reported positive, there is one procedure which must be carried out before all others: repetition of the test with a request for a quantitative determination. Tubes of blood and report slips can be mixed up by the physician or the nurse and by the laboratory. The State Hygienic Laboratory uses a system of double checks which appears foolproof. Repetition of the test is mandatory, however, to eliminate the possibility of human error somewhere along the line.

If the second test is negative, a third should probably be drawn because of the possibility that the error occurred with the second test rather than the first. If, on the other hand, the second test is also positive, the patient should be informed of the fact, not that he has syphilis, but that something is wrong with his blood test requiring thorough examination. *Treatment should never be instituted solely on the basis of one or two positive serologic tests.*

A complete history should then be taken, including the following points:

1. Evidence of syphilis, such as genital sores, skin rashes, sores in the mouth, palmar and plantar eruptions, loss of hair and persistent sore throats,
2. Other febrile disease of any kind, pregnancy, immunizations, and the like,
3. Previous serologic tests,
4. Sexual and other close physical contacts, and



5. Health and serologic reactions of parents, siblings and contacts.

Thorough physical examination should be performed with attention not only to evidences of syphilis, early or late, but also to other illnesses which might induce positive serologic reactions. Absence of symptoms or signs of syphilis but the finding of physical and laboratory evidence of infectious mononucleosis would, for example, be very suggestive evidence that the positive serologic reactions were false. Spinal fluid examination is essential; false positive spinal fluid serology rarely if ever occurs. Contacts should be investigated, either by the physician through the cooperation of the patient, or by the State Department of Health. Parents and siblings should also be checked.

Certain criteria are suggestive of false reactions, although not diagnostic of them:

1. Very weak serologic titers.
2. Kolmer, VDRL and Kline tests (or others) in disagreement, and
3. Consecutive tests in disagreement.

Conversely, high titers, especially those above 1:16, are more likely to be true syphilitic reactions, but again this does not constitute proof. We have seen a false reaction in a titer of 1:4096 in a person with trichiniasis, a disease which rarely produces false serologic reactions.

Low serologic titers also occur in early primary syphilis, late acquired syphilis and late congenital syphilis. In the latter two, the tests may also vary and disagree with each other. In early primary syphilis, of course, subsequent tests should show a marked rise in titer during the following week.

In the course of the investigation of these serologically reactive individuals, some of them will have past or present signs or symptoms indicating syphilitic infection. Others will have syphilitic mothers or siblings, indicating a probability of congenital syphilis. Still others with positive serologic tests will show evidence of other conditions which may induce seropositivity; these will be tentatively classed as false positive reactors and followed serologically without antiluetic treatment. Unfortunately there will remain a considerable group in whom the only positive findings are the blood tests, and in whom no other evidence can be found to point the way out of the dilemma.

#### THE PROBLEM CASES

It is this last group with whom we are particularly concerned, for, since syphilis is a serious disease, its diagnosis is also serious and should not be made on the basis of flimsy and conflicting evidence. The physician would do well to remember that severe psychic injury follows the making of such a diagnosis even in this enlightened age. Families may be disrupted, marriages prevented, employment refused, and social ostracism result.

Nor is the problem solved by instituting treatment. If the treatment of syphilis were 100 per

cent effective, one might justify premature treatment. Unfortunately it is not. In early syphilis one has an 85-90 per cent chance of cure with a course of penicillin; and each patient must be followed for several years, at least, to be sure of a good result. In syphilis of several years' duration, the patient must be followed even longer, perhaps for a lifetime. In essence, *the institution of treatment is tantamount to making a diagnosis of syphilis* and the person, once treated, must be considered a syphilitic individual from that time onward. Once treatment has been given, the patient can never be proved to have been a false reactor.

There are several rules or maxims which ought to be gospel to every physician dealing with serologic tests and the diagnosis of syphilis:

1. *Syphilis is not an emergency.* If the question is one of laboratory (or latent) syphilis versus a false positive reaction, there is never a situation where a few weeks, at least, cannot be devoted to a solution of the problem. Except when the problem occurs in pregnancy, the period of study can safely be extended to months. (Where there is clinical evidence of primary, secondary or active congenital syphilis, it is neither necessary nor desirable to delay treatment, of course).

2. *Treatment is tantamount to a diagnosis.*

3. *Treatment does not solve the problem.*

4. *The diagnosis of syphilis is of serious medical, social and economic importance.*

5. *A person is "innocent" until proved "guilty" beyond a reasonable doubt.* This rule is modified only if the patient is pregnant. Penicillin therapy is just about 100 per cent effective in preventing congenital syphilis, and congenital syphilis is so serious that in such cases treatment should be given if there is any question of the mother having syphilis. In a sense, the treatment is really protective for the baby; the mother simply gets in the way.

6. *Conversely, there is no one in whom the presence of a syphilitic infection is impossible.* I am constantly confronted with this statement by physicians who tell me they have "known this patient for years and he just couldn't have syphilis." Many wives and husbands have discovered to their sorrow that they didn't know their marital partners well enough. The physician ought to have a healthy suspicion in every such case, even with his best friend, sex being a natural urge and one reasonably commonly indulged in by human beings. The physician should avoid the tendency to try, either vocally or mentally, to convince himself that syphilis and sexual activity are beyond the realm of possibility. Nor should he have to resort to the well-worn toilet seat, the community drinking cup or a dirty towel in order to explain the possibility of the presence of the disease, and the easy answer of "congenital syphilis," when unfounded, is an insulting one to the mother in question.

When positive serologic tests occur in an in-

dividual over a period of many months, in reasonably high titer and in good agreement, but in the absence of other affirmative or negative evidence, one is certainly entitled to make an eventual diagnosis of syphilis by presumption and to treat the patient adequately. The length of this period of study may be materially shortened in a person known to have been promiscuous, on the theory that repeated opportunity for infection makes infection more likely. On the other hand, where professed virginity or chastity seems borne out by physical evidence or survives the necessary cynicism of the physician, one may lean the other way and wait longer before clinching the diagnosis with a course of antiluetic therapy.

## CONVERGENCE INSUFFICIENCY

HERMANN M. BURIAN, M.D.\*

IOWA CITY, IOWA

CONVERGENCE INSUFFICIENCY is a frequent cause of symptoms in the patients seen on our offices, and it is a cause which is often overlooked. This is the more regrettable since it is relatively easy to give these patients relief from their symptoms. Also, there still are moot questions concerning convergence insufficiency, in spite of the fact that it has been recognized as a clinical entity for almost one hundred years.

To understand convergence insufficiency, it is necessary to have a clear grasp of the process of convergence. By convergence we mean the synchronous, smooth adduction of the two eyes to fixate binocularly on an object at near vision range, and the impulses necessary to keep binocular fixation on that object. The neuroanatomic and neurophysiologic basis of convergence is as yet only partially known. From a practical standpoint, this lack of information is not significant. But it is of importance to realize that the seemingly simple process of convergence is actually a complex synergism made up of voluntary and involuntary components.

When a person wills to turn both eyes nasalward, with or without the aid of fixation object, he is exciting *voluntary* convergence. *Involuntary* convergence is more complex and one can distinguish *tonic*, *accommodative*, *fusional* and *proximal* convergence.

Tonic convergence is represented by the basic tonus of the ocular muscles which exists in the waking, attentive state when one looks at a distance. Its task is essentially to keep the eyes properly aligned horizontally. It varies in amount in different individuals in accordance with the amount of their heterophoria.

Accommodative convergence is that part of con-

vergence which is coupled with accommodation in the near-vision complex. It is directly proportional to the amount of accommodation exerted and is, therefore, greatest in the uncorrected hypermetrope, least in the uncorrected myope.

Fusional convergence is the most important component in the convergence process. It is the part which makes convergence a fusional movement, and as such it is elicited by disparate stimulation of the two retinas. For instance, when an object approaches the eyes in the midline of the head, the image of that object is shifted templeward on the two retinas. The approaching object would thus be seen double unless the eyes maintained fixation on the approaching object by moving nasalward. Similarly, if a displacement templeward of the image of the fixated object on the retina is produced by prisms, the eyes turn nasalward to maintain fixation.

Finally, proximal convergence, also known as instrument convergence, is an excessive convergence which takes place when a patient looks into an instrument, such as a stereoscope or major amblyoscope. Even though the optical arrangement in these instruments may be such that the targets are optically placed at infinity, the awareness on the part of the patient that the objects are actually in front of his eyes may cause him to overconverge. It is of practical importance to keep in mind the existence of proximal convergence in evaluating major amblyoscope findings and in comparing them with findings in other tests.

An insufficiency of convergence may be the result of a defect of one, several or all components making up the total act of convergence.

Convergence insufficiency may be defined as the inability or unwillingness of a patient to converge his eyes on a near object.

In a general way the cases of convergence insufficiency can be classified into those which are of organic origin and those which are of functional origin.

Organic convergence insufficiency—a paresis or paralysis of convergence—is a comparatively rare occurrence caused by an organic lesion within the pathways for convergence. In order to diagnose an organic convergence paralysis with some degree of certainty, the condition must have occurred suddenly and must be accompanied by other evidence of intracranial disturbances due to trauma or disease. Also, a convergence insufficiency whose signs are not influenced by therapy is always suspicious. For functional convergence insufficiency is in general easily influenced by treatment.

This presentation deals exclusively with the functional type of disturbance of the convergence function, and I shall now consider its incidence with regard to age, sex and refractive error.

As I have pointed out already, functional convergence insufficiency, in contradistinction to

\* From the Department of Ophthalmology, College of Medicine, State University of Iowa.



organic paralysis of convergence, is frequently encountered. Age is no factor in the incidence. Among 67 cases of convergence insufficiency collected in a short period in my office in Boston, the ages from 10 to 75 years are represented. There is a slight prevalence of the female sex, but the refractive error appears to play no significant role. The 67 cases mentioned presented a normal distribution of the refractive errors.

The subjective symptoms of convergence insufficiency are not pathognomonic. They are the symptoms common to all conditions causing eye strain or asthenopia, but in pure cases the symptoms are brought on by close work only, and there is occasionally the complaint of diplopia for near vision.

Before speaking of the means of diagnosing convergence insufficiency, I must discuss the objective signs of the condition. In a full-fledged case of convergence insufficiency there is evidence that all the components making up convergence are more or less defective: the near point is remote, and convergence can not be sustained, the amplitude of convergence, especially for near fixation, is poor, and there is an exophoria for near greater than for distance. It is, however, necessary to realize that in many instances there is only a partial defect of the convergence function which is responsible for the patient's symptoms. In such instances, the convergence insufficiency is frequently overlooked. Thus, for instance, there are patients who have a good near-point of convergence, but whose amplitude of convergence is subnormal. In others, again, the near-point is remote in spite of good amplitudes. Finally, there is a group of cases in which the near-point of convergence and the fusional convergence are normal, but which exhibit an exophoria for near. Strictly speaking these are not cases of convergence insufficiency, but they must be considered in the differential diagnosis.

To diagnose a convergence insufficiency, the different components making up convergence should be investigated separately and routinely. The first test consists in a measurement of the near-point of convergence. This point is generally determined by approaching a small object toward the patient's eyes and measuring the distance from the eyes (using the root of the nose or the lateral margin of the orbit as point of reference) at which one eye gives up fixation, i.e. at which one eye moves templeward. Incidentally, this may be used as a test for ocular dominance, since the non-dominant eye is as a rule the one which gives up fixation. Most authors feel that a convergence near-point of 7 to 9 cm is within normal limits.

Although it is the result of a more complex process, the near-point of convergence is largely a measure for voluntary convergence. Now since, in such a single test, many patients are capable of exerting an extra effort of convergence, the re-

sult of this test may yield a normal figure in spite of the fact that the patient may have a convergence insufficiency. In the opinion of many writers, the near-point test is, therefore, not a satisfactory diagnostic sign for convergence insufficiency. While this is true for this so-called objective determination of the near-point of convergence, if the findings are within normal limits, it applies much less to the subjective measurement of the convergence near point, which is the point at which the patient reports diplopia when an object approaches his eyes. However, it is often difficult to elicit diplopia, and it is, therefore, best to place a red filter over one eye of the patient and to use a small light as fixation object. As long as the patient perceives a single light, pink in color, he has binocular fixation. When binocular fixation is given up, the patient sees two lights, one white, the other red. The red filter serves a dual purpose: it differentiates the visual fields of the two eyes making it easier for the patient to recognize diplopia, and it presents a slight obstacle to fusion. The darker the filter, the greater the obstacle and accordingly the more remote is the near-point of convergence in cases of convergence insufficiency. This test becomes particularly valuable when one compares its results with those obtained with the so-called objective method. In normal individuals the two figures coincide. In patients with convergence insufficiency the near-point is more remote with the red-glass test than with the objective method and the more severe the convergence insufficiency is, the greater is the difference.

The use of the red glass introduces the fusional factor in addition to the voluntary factor in the measurement of the near point of convergence. If one wishes further to investigate the voluntary factor, he may study how the patient maintains convergence without the aid of a fixation point. He does this by removing the fixation object shortly before the near point is reached and asking the patient to continue to converge. Normal individuals are able to do so indefinitely with small fluctuations. Patients with convergence insufficiency are in general unable to do so.

The accommodative factor may be studied by comparing the status of the patient's convergence function with and without his correction.

Most important, the fusional factor is evaluated by determining the amplitude of convergence. This can be done by measuring the amplitudes on a major amblyoscope in an orthoptic examination, but the ophthalmologist will also invariably use the prism convergence test.

In this test prism power of increasing strength, with the prism base templeward, is placed in front of the eyes and the amount of prism power at which diplopia occurs is determined. For distance fixation a minimum of  $18\Delta$  of prism convergence is considered normal; at 33 cm it should amount to at least  $30\Delta$ .

In performing this test, as in the measurement of all fusional amplitudes, it is necessary for one to increase the prism strength slowly to allow the eyes to follow the stimulus.

The point thus determined is known as the breakpoint. Some ophthalmologists determine also the recovery point, that is, the point at which fusion is regained when the prism strength is reduced after the break-point has been reached. The recovery point indicates the patient's readiness to resume fusion. It should be near the break-point, say 3-5 $\Delta$  below it.

Once the examination has established the presence of a complete or partial, severe or slight convergence insufficiency, treatment must be instituted, if the patient's symptoms warrant it. Such treatment will be directed toward the restoration of the convergence function, and if the examination has revealed that one of the components of convergence is more deficient than the others, the treatment should be modified accordingly.

The treatment will be particularly efficient if the ophthalmologist has at his disposal the services of an orthoptist. The orthoptist will, in general, institute some anti-suppression exercises, if these are indicated, and proceed with the training of the fusional amplitudes. After a few sessions, home exercises will then be instituted.

These represent the most important form of exercises, and they can be advised and supervised by the ophthalmologist who does not have to depend upon an orthoptist to treat his patients with convergence insufficiency. These home exercises have two goals: one is the improvement of the near point of convergence, the other the improvement of the fusional amplitudes.

The near point exercises are best known and are often advised, but they remain ineffective if they are not properly administered. It is not enough to have the patient do the "finger-to-nose" exercise or to have him fixate a small object which he approaches to his eyes. The patient must at all times be sure that he uses both eyes during the exercises and must know when he does not do so. To insure this, it is best to have the patient use a penlight as fixation object and to give him a red filter to place over one eye during the exercise. As long as he sees a pink light he knows that he is using both eyes.

Exercises to improve the fusional amplitudes can be carried out in two ways, either by using prisms or by using a stereoscopic device.

The prism exercises are performed in the following way. The ophthalmologist selects a prism the strength of which is just slightly above the patient's fusional amplitude for distance, say 14 $\Delta$  if the break point is at 12 $\Delta$ . He asks the patient to place this prism base out in front of his eyes and to look at a large object (say a number on a calendar) on the wall. If the object is double

the patient must approach it until it becomes single. Then he must slowly go back until the object doubles up again. He must repeat this exercise for 3-5 minutes at least 3 times a day. The patient will soon notice that he can recede farther and farther, and that finally the object will remain single at any distance, but he should continue the exercise in spite of this success. On his next visit (after 8-10 days of exercise) the prism strength can then be increased, but the exercises should continue until the amplitudes are satisfactory.

For near-vision distance, the prisms can be used in a similar manner. The patient looks at print held in one hand and suddenly places the prism base out in front of one eye. He should observe its doubling and its becoming single, and when the print is single, he should fixate it while slowly counting from one to ten. Then he should remove the prism, await fusion and repeat the exercise 5 to 10 times.

As a rule these prism exercises are extremely effective. They are easily performed, and the prisms are readily obtained, since most opticians have a stock from which they rent to patients.

Nevertheless, it is often advisable to supplement them with stereoscopic exercises in which series of targets are used containing patterns that the patient must use increasing convergence to fuse.

As has been pointed out, the treatment of convergence insufficiency is often thought of as the result of a neuropathic constitution and not requiring treatment. To be sure, some patients with convergence insufficiency have neurotic traits and exaggerate their symptoms. Yet I often wonder whether their behavior is not the consequence rather than the cause of their convergence insufficiency. It stands to reason that the constant strain to which they are subjected in close work may well produce an attitude which may be interpreted as neurotic. In any event, I feel that these patients are entitled to our help. It is not difficult to offer this help, and in the vast majority of cases of convergence insufficiency the physician is well rewarded for the patience and care he expends in the diagnosis and treatment.

## MEDICAL STENOGRAPHY

A night-school course in medical stenography and terminology is again to be conducted at the Iowa State Medical Society's building, 529-36th Street, Des Moines. Classes will meet on Friday evenings, from 7 to 9 P.M., October 2 through December 18. Enrollment closes September 20.

Since 70 per cent of the course consists of instruction in medical terminology, knowledge of shorthand is not a prerequisite.

For information on tuition and details, address the instructor, Miss Etta M. Miller, 1102 Douglas Avenue, Des Moines 13.



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager....Des Moines  
MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN E. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII      SEPTEMBER, 1953      No. 9

## EARLY CANCER DIAGNOSIS

It is becoming increasingly clear that the general practitioner has a unique advantage in identifying the presence of a number of important cancers in advance of their usual signs and symptoms, through the application of a few simple procedures adapted to office practice.

Routine physical examinations of well people disclose cancer in 8 out of every 1000 individuals unselected as to age, and this rate rises to 35 per 1000 among patients over 60 years old.

Cancer of the cervix, the chief cause of death from cancer among women, is practically curable when adequately treated in the noninvasive stage, which is now identifiable by the simple vaginal smear. Cancer of the lung is found to be localized seven times more often in patients whose tumors are discovered in a routine chest film than in those patients who are referred for a chest film because they are coughing, have chest pains or display other symptoms. Cancer of the rectum can be felt in most cases and identified through use of the proctoscope before bleeding, diarrhea and tinesmus occur.

We all know the value of an annual physical examination. For effective cancer detection, all well people over 40 and, indeed, women of all ages must be persuaded to have cancer check-ups every year at the offices of their family physicians. Such an examination is simple, inexpensive, brief and not only the best insurance against cancer but also a relief from fear of cancer.

A five-point cancer-detection program can detect three out of four cancers in time for cure. These five points include: (1) Particular attention to the

skin, (2) Oral examination, (3) Gastro-rectal examination, (4) Chest (including breast) examination, and finally (5) examination of the uterus in the female and the prostate in the male.

The general practitioner must accept this new challenge to reduce deaths from cancer by achieving the earliest possible recognition of this dread condition.

## SOME DOCTORS ARE HUNGRY

Recently the monthly bulletin of the district medical society at Worcester, Massachusetts, pointed out that some doctors are overcharging patients *because* they carry Blue Shield insurance, and commented, "Some doctors are hungry." The accusation is that a few physicians who formerly charged the \$50 or \$100 that the patient could pay for a surgical procedure are now accepting this fee from Blue Shield or some other insurance program and charging the patient an additional \$50 or more.

Such actions as those which the Worcester society's publication decried are dangerous to the good name of the medical profession and are damaging to Blue Shield, not just in the locality where they occur, but throughout the United States. Indeed, it is dangerous even for medical journals to protest against them, for this particular charge not only was reprinted in the nation's press, but received radio comment on a nationwide hookup almost before the ink was dry.

Of the Blue Shield policyholders who had gone through the experience of receiving doctor bills that were justifiably larger than the fixed allowance for the operations that had been performed, some, perhaps, knew why their Blue Shield plans hadn't covered the entire amount, but others, reading their newspapers or listening to their radios, jumped to the conclusion that their doctors had taken them for a ride.

Physicians participating in Blue Shield have two responsibilities when they issue their statements. First, they must make certain that the patients whom they bill for amounts in excess of Blue Shield allowances have incomes that make them ineligible for full Blue Shield coverage, and, second, they must be sure that each of those patients will understand why their insurance isn't paying the full bill.

Under Blue Shield, the doctor is guaranteed a fee comparable to what he himself would set for low-income patients, and he is relieved of the problem of collecting from these patients. When he goes above the Blue Shield allowance—as he sometimes has to do—it is the doctor's responsibility, if he cares at all for the future of the prepaid movement, to let the patient know about the additional charge *before the service is rendered*, and to make it palatable by whatever method his knowledge of human behavior suggests.

The specific attacks on Blue Shield are based

on those certain few physicians who actually tack their regular fees on top of the Blue Shield allowance. No matter how few there are, it is time for the medical profession to recognize the peril and take vigorous action.

### HIGH-SPEED HYPNOSIS

One of the ever-present problems regarding safety on the highways has been the question of speed. Many authorities claim that high speeds are mainly responsible for auto fatalities, yet other authorities point out that this factor is not the important one when investigations have been carried out at the scenes of accidents. Even in Iowa there is disagreement upon setting speed limits for day and night driving at arbitrary figures.

It is quite possible that such a condition as high-speed hypnosis actually exists. The proof of such a condition is difficult, inasmuch as individuals who might be assumed to have reacted in a state of hypnosis usually died in the accidents in which they were involved or were not aware of having been in a hypnotic state. And experimental work upon the problem, obviously enough, is extraordinarily hazardous.

Many drivers find that traveling in a severe snowstorm or in a heavy fog, in which light is reflected back into their eyes, induces a daze from which they find it necessary, periodically, to shake themselves. A similar condition occurs when one is driving behind a large truck, particularly one with a reflecting rear surface.

A related factor is the effect of car radios on drivers. Certainly car radios may be a factor in keeping them alert, provided that the programs consist of military marches or other stimulating music, such as swing, or the hep-cat variety. However, if the music is soft, slow and soothing, a sedative reaction obtains and the driver is likely, more or less completely, to go to sleep. And a driver traveling at a high speed who is attempting to follow the continuity of a story, such as a murder mystery or a suspense thriller, may have his attention diverted from the highway with disastrous results.

With the construction of toll super-highways, fatal accidents have not been eliminated as was anticipated. Human nature being what it is, it is quite possible that hypnotic states and the effects of radio entertainment may have played an important part in these disasters. Thus, it would appear that medical research on the problem should be intensified.

### MULTIPLE HOUSEHOLD POLIO

We wish to call our readers' attention to the two directives on poliomyelitis in the Department of Health section of this issue of the JOURNAL (page 396). In particular, we hope that all Iowa

physicians will inform themselves about the joint project being undertaken by the Department and the Epidemiologic Branch of the USPHS for investigating multiple household cases of the disease, and that they will give it their fullest cooperation.

### AMERICAN MEDICAL EDUCATION FOUNDATION

The second annual report of the American Medical Education Foundation reveals the determined effort that physicians are making to meet their share of the growing demand for additional financial support of the nation's medical schools.

The foundation's 1952 campaign was conducted on a state and local level by committees composed of busy practicing physicians deeply cognizant of the financial plight of medical education. A total of \$906,553.82 was contributed, an amount far short of the \$2,000,000 goal, but a sizable sum, none the less. The list of contributors included 230 Iowa doctors.

More than 30,000 doctors, including 140 from Iowa, contributed \$2,258,534 directly to their medical schools in support of teaching budgets. Many alumni funds reported sharp increases in alumni support during 1952 and feel that those increases resulted from interest stimulated by the foundation's program.

Although the individual grants to the medical schools appear small due to the limited funds contributed, the money served a purpose far in excess of its buying power in goods and services. It is sincerely to be desired that the contributions in 1953 will more nearly approach or will exceed the \$2,000,000 goal. Indeed, no more worthy cause could be found for gifts than one which contributes to the maintenance of teaching standards and thus helps give the people of the United States the best trained physicians in the world.

### HIGHLIGHTS OF TRUSTEES' MEETINGS SINCE THE ANNUAL MEETING OF THE SOCIETY LAST APRIL

*May 7*—The Board accepted the bid of The Ovid Bell Press, Fulton, Missouri, for printing the new Articles of Incorporation and By-Laws. It designated representatives to attend a conference on school health in Highland Park, Illinois, September 30 to October 2. Dr. Everett M. George and Mr. Edw. W. Hamilton were authorized to attend a meeting of medical journal editors in Chicago early in November.

A resolution was received from the Wapello County Medical Society expressing disapproval of the raise in income levels by the Iowa Medical Service (Blue Shield). The Board considered the resolution and directed that the County Society be informed of the steps leading up to the changing of full-service limits. The Board approved a



salary increase for one member of the staff and approved investigation of the possibility of an investment in government bonds.

After an executive session lasting one hour, the Chairman of the Board announced approval of a new personnel organization chart and also a delineation of duties of employees of the Society.

*July 9*—On the Trustees' invitation, Dr. Martin I. Olsen and Mr. Woodrow H. Sherin, of Iowa Medical Service, came to discuss the action of the Veterans Administration in terminating its contract with Iowa Medical Service for the care of veterans in their home communities. After the discussion, the Board recommended that Iowa Medical Service send a letter to all cooperating physicians stating the facts in the matter.

The trustees discussed with Mr. Sherin and Dr. Olsen the resolution from the Wapello County Society. Mr. Sherin and Dr. Olsen suggested the establishment of an advisory board, containing a representative from each county society, to advise the Board of Directors of Blue Shield on important policy matters. The Board of Trustees directed that a letter be sent to the President of Iowa Medical Service recommending that the executive committee of his organization consider the best procedure for appointing these local liaison men.

The Board voted a contribution to the Iowa Safety Council and approved a statement from Mr. Harvey Sethman covering his services in conducting a survey of the organization and administration of the State Society. Three committee appointments were made, all of them replacements.

The Trustees voted a vacation schedule for the office personnel of the State Society. The purchase of past presidents' pins for the Woman's Auxiliary was authorized. It was announced that an arrangement had been worked out for the Society to furnish a medical article for publication in *Wallace's Farmer* every two weeks.

The Board voted to send a representative to a meeting of the American College of Physical Medicine and Rehabilitation, in Chicago, August 31 to September 4, inclusive. The Committee on Rural Health is to be invited to represent the Society at the annual meeting of the American Country Life Association, at Ames, Iowa, October 6 to 8. The Board directed that a certified public accountant be employed to develop a new accounting system for the Society. The meeting then adjourned.

*July 19*—Mr. W. Curtis Lamb, representing the Aetna Life Insurance Company, appeared before the Board to discuss a retirement program for employees of the Society. The trustees accepted his proposal tentatively, but withheld final approval until the details could be checked carefully by the legal counsel for the Society. Mr. Lamb was invited to appear once more at the August 16 meeting.

*August 16*—Mr. J. Farr Halliday, accountant for the Society, appeared before the Trustees to propose new accounting procedures. He recommended a revolving fund from which routine

office expenses and employees' salaries could be paid, a new profit-and-loss statement, and an inventory of all fixed assets valued at \$50.00 or more. The Board approved his recommendations to become effective September 1.

The Board authorized representatives to attend the annual meeting of the Wisconsin State Medical Society, in Milwaukee, on October 5, 6, 7 and 8, and a representative to attend a meeting of the Committee on Federal Medical Service, of the Council on Medical Service, at AMA headquarters in Chicago, September 1. The purpose of this meeting is to discuss care of veterans with non-service connected disabilities.

A report was given the Trustees on the status of the television series which is to begin this fall. The Board approved certain changes of office personnel. The meeting then adjourned.

### MEETING OF THE EXECUTIVE COUNCIL, AUGUST 16

Dr. R. N. Larimer, President of the Iowa State Medical Society, explained that the meeting had been called to give officers of the Society an opportunity to review the proposed pension plan for lay employees. He reviewed the actions that had been taken by the House of Delegates relative to the project.

After Mr. Curtis Lamb, representing the underwriter, The Aetna Life Insurance Company, and Mr. I. H. Myers, legal counsel for the Society, had discussed important features of the proposal, it was the feeling of some of the members of the Council that they needed some time in which to consider it.

Accordingly, it was voted that copies of the 26-page contract be sent to all members of the Council and that action be postponed until the next meeting, which is tentatively set for October 1, at 10 a.m.

At the request of the Wapello County Medical Society, Dr. E. B. Howell introduced a resolution asking that the Iowa Medical Service restore the full-service limits under its contracts to \$2,400. It was voted unanimously that the resolution be acknowledged and transmitted to Iowa Medical Service.

### DR. ARTHUR D. WOODS

The death of Dr. Arthur D. Woods, of State Center, on August 18, is a profound loss to Iowa medicine. Though he was best known as a member, until recently, of the State Board of Medical Examiners, Dr. Woods also served the Iowa State Medical Society faithfully and well in a variety of committee activities, he was a delegate to the AMA for many years, and carried on highly efficient and valuable work as a general practitioner.

---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## PROGRAM ANNUAL MEETING

September 24-25, 1953

Hotel Savery, Des Moines

THURSDAY, SEPTEMBER 24

### *Morning*

Symposium—"Peripheral Vascular Disease"

M. T. Bates, M.D., and E. T. Scales, M.D., Des Moines

### *Luncheon*

"AAGP Group Insurance Plan"

Mr. Charles E. Hovey, St. Louis

### *Afternoon*

"Modern Medical Education"

Norman B. Nelson, M.D., Dean, College of Medicine, University of Iowa

Annual Meeting of the Iowa Academy of General Practice

(Election of Officers)

### *Evening*

Reception and Cocktail Hour

Banquet

Entertainment

FRIDAY, SEPTEMBER 25

### *Morning*

Symposium—"Peptic Ulcer"

By the Faculty of the College of Medicine, University of Minnesota

Participants:

F. John Lewis, M.D., Dept. of Surgery

James Myhre, M.D., Dept. of Medicine

C. K. Aldrich, M.D., Dept. of Psychiatry

C. M. Nice, M.D., Dept. of Radiology

### *Luncheon*

"Scope of the Modern Life Insurance Examination"

F. Tulley Hallam, M.D., Medical Director, Bankers Life Co., Des Moines

### *Afternoon*

Continuation of Symposium on Peptic Ulcer  
Question Period

The officers of the Iowa Academy and the Committee on Scientific Assembly are very anxious to spread the news of our annual meeting to all interested doctors in the state. We have arranged with the Hotel Savery to set aside a block of rooms for the nights of September 23rd and 24th for the convenience of those who wish to attend. It is our hope that most of you will be able to bring your wives this time. We think they will be able to take care of themselves during the daytime, but we want them to come with you to the reception and banquet to be held on Thursday evening, September 24th. Aside from the social hour and buffet dinner, we have arranged very special entertainment for all. This entire evening will be made available for only \$5.00 per person. It was decided that this event should be strictly pleasure.

You do not have to be a member to attend any of our meetings. A small registration fee will be charged to non-members, but this will be applied on membership in the event you wish to turn in your application during the meetings.

It is in the interest of all men doing general practice in the state of Iowa to attend these post-graduate meetings of the Iowa Academy. Nothing is spared to make them useful and informative. Aside from that, your membership in the Academy will be most valuable to your prestige in practice. We would like to tell the people of this state that our General Practitioners are foremost in the nation in their efforts to give them the finest and most up-to-date medical care to be found anywhere. The Academy of General Practice is an organization dedicated to the improvement of medical care of patients. Why not get behind it? Send your application to any of the officers or to the executive secretary. A postal card with your name on it will bring you an application blank. Or come to the annual meeting and turn in your application at the registration desk. Tickets for the two luncheons and the banquet will be on sale at the registration desk.

Write to Hotel Savery, Des Moines, Iowa. Say that you are attending the meeting of the Iowa Academy of General Practice and name what accommodations you wish. Do it today. Bring your wife. Have a nice time and attend a good meeting as well.



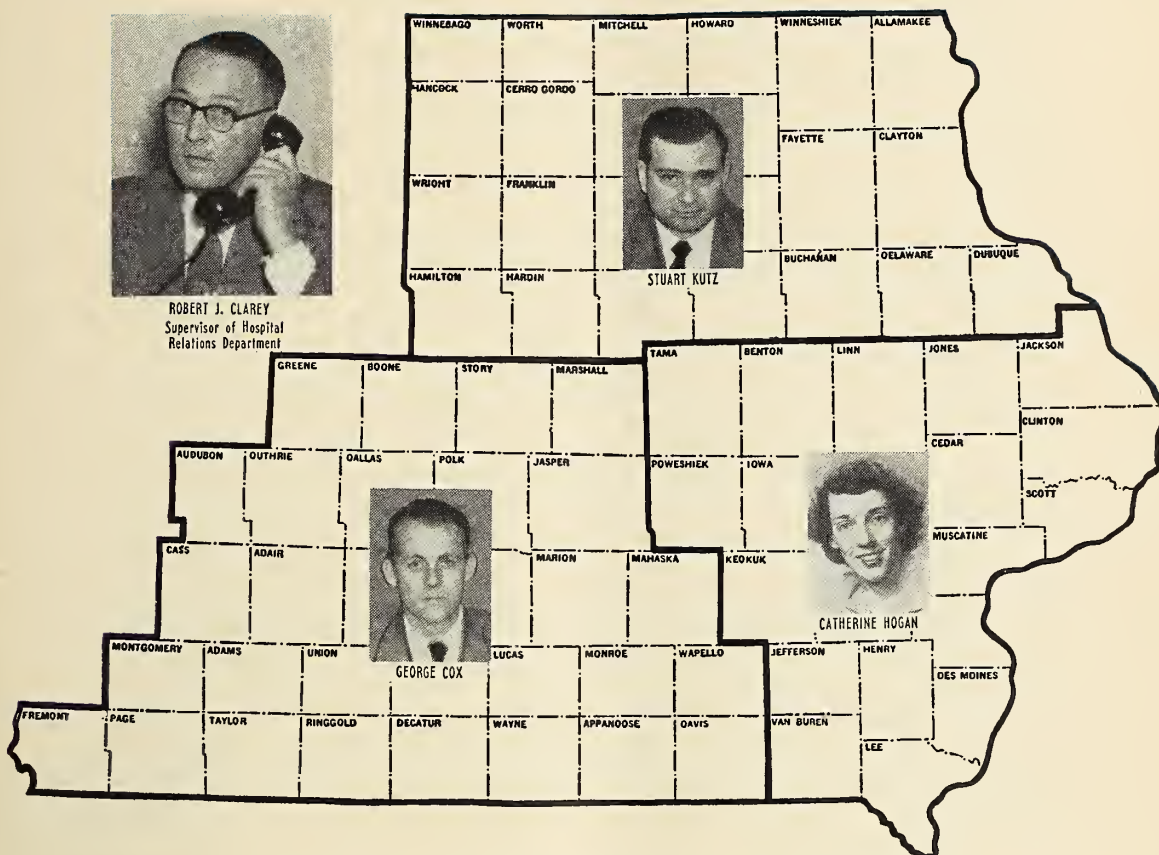
# BLUE CROSS



# BLUE SHIELD



ROBERT J. CLAREY  
Supervisor of Hospital  
Relations Department



## HOSPITAL RELATIONS PERSONNEL OF BLUE CROSS

Blue Cross has always been concerned over equitable payments to hospitals for services rendered to its members. When our Plan first started, the hospitals were paid on a per diem rate, the same for all hospitals. Soon both we and the hospitals realized that those hospitals with fewer services and low payrolls were building up surpluses, while others with more services and the resulting higher costs were being penalized. We tried paying billings, and that had its disadvantages, for some hospitals apparently were not relating billings to costs, and consequently some of the charges seemed quite out of line in contrast with others of comparable services and size.

In 1950, the American Hospital Association published a Handbook on Standardized Hospital Ac-

counting for its members. About the same time, Blue Cross decided to do something about the long-felt need for more regular visits to hospitals. As a result, the Hospital Relations Department was set up. It is supervised by R. J. Clarey, formerly supervisor of the Hospital Department. People who had an accounting background were chosen for this staff, and they were indoctrinated as regards the American Hospital Association principles of hospital accounting and the Blue Cross philosophies and operations.

The above map shows the personnel and their respective territories. They call on hospitals about every three weeks, keeping in touch with Blue Cross problems and interpreting and answering

(Continued on page 395)

## *General Manager's Page*

September is one of the most important months for the State Society.

By the tenth of the month, all of the committees will have held organizational meetings and outlined plans for the winter's activities. Enthusiasm has reached a new "high" and you may expect these committees to call upon you for cooperation and support.

During the summer months the long past-due pension plan for office employees has been set up, an entirely new bookkeeping system has been installed, and we have assisted in the organization of the new Medical Examining Board.

The Public Relations Committee will offer you an exceedingly active program. A "Health Column" will be started in *Wallaces' Farmer* this month. This new press-release project, we hope, may be expanded to include many Iowa newspapers.

The Society will start weekly programs the last week in September over WOI-TV. Each of these shows will be filmed, and the films will be available to any other TV station serving Iowa, and they may also be used on any 16mm sound machine. The only cost is transportation.

I am, again, suggesting that in planning your programs for the year you reserve one program for the State Society. **We want you to know what we are doing.** We feel that this is a service you deserve and should have.

KNOW YOUR STATE SOCIETY BETTER!

*R. D. Bernard, m.d.*

*General Manager*

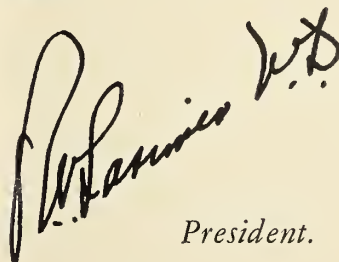


## *President's Page*

With the election of President Eisenhower, a figurative sigh of relief was uttered by the Medical profession. It seemed that, for at least the time being, some of the pressure against our group might be relieved. It is true that some of the social planners have left, or are having pressure put upon them to leave, government services, but it is doubtful that they will actually reverse their former positions and discontinue urging the adoption of the plans to which they have devoted their efforts for so many years. And even if all of the advocates of National Medicine should cease their activities, there are other factors at work which should concern us all.

The development of the Department of Health and Education has already brought out a plan for the blanketing of another ten or fifteen millions of Americans into the Social Security program. Doctors, themselves, are included, and it may be that quarterly payments to the Social Security board will be added to our present tax burdens. The CIO has served notice on the Blue Cross and Blue Shield organizations that it expects a bigger and more favorable contract—it wants total hospital and medical coverage, and it threatens that if the Blue Cross and Blue Shield fail to produce that contract, it will undertake the development of its own National Insurance Plan. The great industrial organizations, on at least two occasions, have also demanded wider coverage with the same threat, and, from a statement made by its president, it is apparent that the Ford Motor Company must be considering some such plan.

We in Iowa can protect ourselves only by producing and delivering satisfactory medical care to our patients. All of us can make an effort to get in touch with and advise our State and National legislators that we do not want either expanded Social Security or National Health Insurance. It is not too early for us to be alert as to the candidates in the Primary of 1954, and we must begin to find out what platform each candidate will support.

A handwritten signature in dark ink, appearing to read "W.B. Lammie". The signature is written in a cursive, flowing style with a large initial "W" and "B".

*President.*

---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

ENDOCRINOLOGY IN CLINICAL PRACTICE, by *Gilbert S. Gordan, M.D., and H. Lissner, M.D.* (Chicago, The Year Book Publishers, 1953. \$10.50).

MECHANISMS OF UROLOGIC DISEASE, by *David M. Davis, M.D.* (Philadelphia, W. B. Saunders Company, 1953. \$4.50).

NEW AND NONOFFICIAL REMEDIES, 1953, issued under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association (Philadelphia, J. B. Lippincott Company, 1953. \$2.65).

PRACTICAL X-RAY TREATMENT, by *Arthur W. Erskine, M.D.*, 4th edition (St. Paul, Bruce Publishing Company, 1952. \$4.00).

## BOOK REVIEWS

THERAPEUTICS IN INTERNAL MEDICINE, by *Franklin A. Kyser, M.D.*, 2nd. edition (New York, Thomas Nelson, 1952. \$7.50)

Doctor Kyser has again made a significant contribution in revising his volume "Therapeutics in Internal Medicine." Due to the rapid progress and profound changes taking place in this phase of medicine, frequent revisions are necessary. The author's selection of contributors assures the reader of information based upon experience and ability.

The subject matter has been skillfully organized so that not only the ordinary, but also the rare disease processes are presented. The index is arranged so as to permit easy reference to the subject concerned.

Each disease is discussed primarily from the standpoint of therapy. However, etiology, physiology and pathology are included where these aspects are considered necessary to a proper presentation of the subject.

Prescriptions and diets are generously included in detail, thus augmenting the book's value for quick reference.

This book has a definite place in the library of any physician engaged in the practice of clinical medicine.—*George E. Mountain, M. D.*

---

ELECTROENCEPHALOGRAPHY IN CLINICAL PRACTICE, by *Robert S. Schwab, M.D.* (Philadelphia, W. B. Saunders Company, 1951. \$6.50)

Dr. Schwab has given us an excellent book, one for which there has long been a definite need. It is designed for the information of the physician who is interested in electroencephalography and who employs it occasionally in his practice, but does not make it one of his primary concerns.

A general survey of the subject is contained within ten chapters, and there is a glossary that constitutes a valuable service to the profession. Chapter 1 contains an adequate historical summary, and chapters 2 to 7, inclusive, contain an excellent discussion of neurophysiology in relation to electroencephalography and presentations of the clinical aspects of the subject,

including the normal and abnormal encephalogram, the technique, the electroencephalogram in epilepsy, neurological and neurosurgical problems, and the psychiatric applications. The chapter on research is understandably brief. The chapter on laboratory organization and interpretation of the record is more than adequate.

Dr. Schwab has condensed a large amount of material in very readable form, and he has provided a carefully selected bibliography with each chapter. The general subject of electroencephalography is surprisingly well covered in a relatively small volume. The book is highly recommended for all who include the electroencephalogram in their examination procedure and for other physicians who wish to inform themselves about it.—*Paul T. Cash, M.D.*

---

PHYSICAL EXAMINATION OF THE SURGICAL PATIENT by *J. Engelbert Dunphy, M.D., and Thomas W. Botsford, M.D.*, Harvard Medical School (Philadelphia, W. B. Saunders Company, 1953. \$7.50).

This book is composed of 300 pages of concise, detailed information concerning the examination of both the office and the hospital patient.

It is very complete and yet useable. It should be in every doctor's library, regardless of specialty or type of practice, because it embodies the essence of medical practice with emphasis on the physician-patient relationship.

One-half of the volume is made up of the details of the emergency examination. This section is outstanding and bears frequent reading. It is recommended for interns and residents. The question of how and how much to examine, in various accidents, is answered in clear detail.

The appendix lists the various steps to be taken in a complete physical examination. This book represents the first work to appear regarding the physical examination from the surgeon's view point and is highly recommended by the reviewer.—*H. E. Wichern, M.D.*

---

CLINICAL DIAGNOSIS BY LABORATORY METHODS, by *James Campbell Todd, M.D., Arthur Hawley Sanford, M.D., and Benjamin B. Wells, M.D.*, 12th ed., (Philadelphia, W. B. Saunders Co., 1953. \$8.50)

The twelfth edition of this standard reference book of laboratory procedures is coauthored by Dr. Benjamin B. Wells, Professor of Medicine of the University of Arkansas.

Changes in this writing over the last edition have not been extensive, but have brought up to date those tests that have established themselves as aids in diagnosis since the last printing of the book. Notable changes have been made in the rewriting and rearranging of the sections on serology and chemistry. New additions to the book include such items as the Evans Blue method of blood volume determination, the V.D.R.L. serologic test, L. E. (lupus erythematosus)



cell studies and the Fisher Race nomenclature as applied to the Rhesus factor. Short sections are devoted to the theories of flame analysis and phase microscopy. Other items which have been added or added to, consist of methods in the collection and storage of blood, transfusion reactions and male-frog pregnancy tests.

This book continues as a valuable asset to the physician in the diagnosis of disease and in the teaching of technologists in laboratory methods.—*Kenneth R. Duzan, M.D.*

---

STANDARD VALUES IN BLOOD, by *Everett C. Albritton, A.B., M.D.* (Philadelphia, W. B. Saunders Company, 1952. \$4.50)

This work is the first fascicle of a handbook of biological data. It contains a diversified collection of information about the blood. The material is presented in tabular form and its authoritative nature is attested by the list of approximately 640 contributors and reviewers from various fields in biology and medicine.

Included are tables on the following subjects: The general physical properties of blood, coagulation phenomena, blood types, erythrocytes, leukocytes, bone marrow, histochemical properties of blood, blood lipids, serum proteins, amino acids, nonprotein nitrogen, phosphorus, sulfur, vitamins, hormones, enzymes, electrolytes, minerals, gas saturations, buffer systems, radiation effects on blood and hematopoietic tissue, changes in preserved stored blood and the effective levels of therapeutic agents.

Gathering this information and tabulating it must have been a tremendous job. The fascicle can be highly recommended as a reference for normal values and ranges in hematology and biochemistry.—*F. C. Coleman, M.D.*

---

TREATMENT OF MENTAL DISORDER, by *Leo Alexander, M.D.* (Philadelphia, W. B. Saunders Company, 1953. \$10.00)

This book is literally packed solid with value from cover to cover. Its 507 pages encompass a vast area and give a very comprehensive view point of the major therapeutic approaches in psychiatry up to the present time. The necessity for brevity in illuminating such a large field has led to conciseness and clarity, rather than superficiality. The bibliography following each well annotated chapter would alone make this book a must as a reference source. The book is directed primarily to students of medicine, physicians, and young neuro-psychiatrists about to enter training. It includes more than 38,000 cases of mental disorders including 29,000 cases of schizophrenia which the author considers the most challenging field of psychiatric therapy today.

This book will undoubtedly be widely utilized as both a text and a reference book. But its values will transcend these usages. First, this is an intensely practical guide to the practitioner of the proved therapeutic techniques; i.e. the chapters dealing with physical methods of treatments are gems of basic pragmatism. Secondly, although there are volumes available to the physicians who are not psychiatrists dealing with recognition of mental or emotional disturbances, there are a few who tell what comes next in the form of treatment, which is a real concern to

the patient, the patient's family, and the physician himself. This book provides many of the answers in the analysis of the statistical data as well as discussion of possible complications which lead to some prognostic inferences on both a scientific and clinical level because, after all, prediction is one of the main goals of scientists. Thirdly, this book can be read with profit by professional people in related fields such as clinical psychologists and psychiatric social workers, for it shows clearly the role in therapy which the psychiatrists play and also shows the author's belief in the coordinated and integrated use of many techniques and disciplines.

Throughout this book, the author stresses the importance of physical methods of treatment, which he believes are often overlooked by those whose approach to treatment of mental disorder is completely psychological. This book is a worthy and practical addition to psychiatric literature, and even though therapeutic techniques are constantly advancing, this volume represents current knowledge and forms a basis for further growth and development.—*Herbert C. Merrill, M.D.*

---

HEADACHES, THEIR NATURE AND TREATMENT, by *Stewart Wolf, M.D.* and *Harold G. Wolff, M.D.* (Boston, Little, Brown and Co., 1953. \$2.50).

This monograph on the problem of headaches is designed primarily for the lay public, a public which is today becoming more and more concerned with the understanding of its ills. Gone is the day when the philosophy of "the less you tell them, the better off they are" is a therapeutic standby. Today patients demand a complete explanation of their problems.

Wolf and Wolff are excellently suitable for authorship of a book on headaches. They write with knowledge gained from many experiments performed on the mechanisms of headache. They write lucidly with an uncommon amount of "common sense," and they write with a combined physical and psychological approach. Many types of headache are described in detail, and illustrative case reports are given of headaches of psychogenic origin.

For the doctor reviewer, the book reads like a novel (would our journals were written in the same style!), but I fear it may be too complex for the average reader. Perhaps it is pitched for the person with migraine headache inasmuch as a discussion of migraine occupies one third of the book. We have it in our waiting room.—*Daniel A. Glomset, M.D.*

---

**Dr. J. W. Culbertson**, associate professor of internal medicine, and **Dr. S. M. Hovrath**, professor of physiology, both of S.U.I., received grants from the American Heart Association to continue their heart research. Dr. Culbertson has been given \$3,150 to study the effects of surgical and medical treatment on the circulation of the liver and kidneys in certain diseases of the heart and blood vessels, and Dr. Hovrath is to have \$5,250 to use in determining the effects of the formation of clots within the large blood vessels. The Iowa Heart Association has also made its annual gift of \$15,000 to help support the S.U.I. cardiovascular laboratory's research activities.

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Publications Chairman*, Dexter, Iowa  
*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa  
*President-Elect*—MRS. LESTER R. HEGG, Rock Valley  
*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines  
*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

## WOMAN'S AUXILIARY IOWA STATE MEDICAL SOCIETY

*President*—Mrs. Edward B. Hoeven, Ottumwa  
*President-Elect*—Mrs. Lester Hegg, Rock Valley  
*First Vice-President*—Mrs. Charles Flynn, Clarinda  
*Second Vice-President*—Mrs. Dean King, Spencer, Iowa  
*Secretary*—Mrs. Robert Mason, Des Moines  
*Treasurer*—Mrs. Howard Smead, Des Moines

### ADVISORS

L. A. Coffin, M.D., Farmington  
Otis D. Wolfe, M.D., Marshalltown  
C. V. Caughlan, M.D., Council Bluffs

### COUNCILORS

*First District*—Mrs. Paul A. Nierling, Cresco  
*Second District*—Mrs. Soren S. Westly, Manly  
*Third District*—Mrs. Edward Grossmann, Orange City  
*Fourth District*—Mrs. Joe Krigsten, Sioux City  
*Fifth District*—Mrs. Roger M. Minkel, Fort Dodge  
*Sixth District*—Mrs. James F. Gerken, Waterloo  
*Seventh District*—Mrs. C. H. Mitchell, Cincinnati  
*Eighth District*—Mrs. C. J. Lohmann, Burlington  
*Ninth District*—Mrs. Ralph Selman, Ottumwa  
*Tenth District*—Mrs. H. J. Peggs, Creston  
*Eleventh District*—Mrs. Emil C. Peterson, Atlantic

### STANDING COMMITTEES

*Archives*—Mrs. Fred Moore, 634-40th Street, Des Moines  
*Annual Meeting*—Mrs. B. F. Kilgore, 5434 Woodland Ave., Des Moines  
*Finance*—Mrs. Wm. B. Chase, Jr., 690-63rd Street, Des Moines  
*Historian*—Mrs. E. B. Howell, West Golf Avenue, Ottumwa  
*Parliamentarian*—Mrs. James A. Downing, 1246-46th Street, Des Moines  
*Exhibits*—Chairman, Mrs. Frederic Loomis, 5 Hackett Road, Waterloo  
*Program*—Chairman, Mrs. Dean H. King, 307 East 4th, Spencer; Mrs. James Clark, Estherville; Mrs. Carroll Brown, Sioux City; Mrs. Ralph Lovelady, Sidney; Mrs. C. W. Thomas, Mason City

*Today's Health*—Chairman, Mrs. Lincoln F. Stefens, 1030 Grove Terrace, Dubuque; Mrs. R. E. Clark, Manchester; Mrs. J. W. Moberly, 810 South Grandview, Dubuque; Mrs. Charles F. Lowry, 246 Lincoln, Council Bluffs  
*Civil Defense*—Mrs. M. Beddoes, Waterloo  
*Committee for the Handicapped*—Chairman, Mrs. H. C. Merillat, 2801 Woodland Ave., Des Moines; Mrs. J. W. Gerken, 811 Fletcher, Waterloo; Mrs. C. E. Hefferman, 3850 Country Club, Sioux City; Mrs. J. W. Lawrence, 115 Fremont, Dubuque; Mrs. E. A. Archer, Snell Place, Fort Dodge.  
*Legislation*—Chairman, Mrs. Howard Smith, Woodward; Mrs. Martin Blackstone, 12-38th Street, Sioux City; Mrs. Emerson B. Dawson, 227 South 1st Street, Fort Dodge; Mrs. George Watters, 743-53rd Street, Des Moines; Mrs. Bruce Howar, 1428 Des Moines Street, Webster City  
*Mental Health*—Chairman, Mrs. Wilson Wolfe, 1722 North Elm Street, Ottumwa.  
*Nurse Recruitment and Loan Fund Committee*—Chairman, Mrs. E. A. Larsen, 323 E. Oak Street, Centerville; Mrs. H. W. Longworth, 628 So. Boone Street, Boone; Mrs. D. G. Sattler, Kalona; Mrs. Carl Hanson, 1804 Baltimore, Waterloo  
*Revisions*—Chairman, Mrs. Wm. A. Seidler, Jamaica; Mrs. Wm. A. Hornaday, Des Moines; Mrs. E. T. Warren, Stuart; Mrs. James A. Downing, Des Moines  
*Public Relations*—Chairman, Mrs. Noble W. Irving, Jr., 1523 Locust, West Des Moines; Mrs. A. O. Wirsig, Shenandoah; Mrs. Howard Turner, 1420-46th Street, Des Moines  
*Year Book*—Chairman, Mrs. C. H. Mitchell, Cincinnati; Mrs. L. A. Coffin, Farmington; Mrs. Milton F. Kiesau, Postville  
*American Medical Education Foundation*—Mrs. H. A. Spilman, Ottumwa  
*Publications*—Mrs. Keith M. Chapler, Dexter

---

## LINES FROM THE PRESIDENT

There is a hint of autumn in the air, now—the bright, hot days, the coolness of night and the incessant buzz of locusts all remind us that September waits just beyond that first line of hills.



August is a lazy, relaxing month when the care-free manner of summer living tapers off; it is a time for stock taking, for leisurely planning for the duties and responsibilities which September always brings.

Soon the early morning hubbub of off-to-school small fry will begin; mothers will linger a little longer over that second cup of coffee, half regretting, half luxuriating in the unwonted peace and stillness of the house, feeling sharp sadness too if it is the beginning of school for some small one.

County presidents will be looking forward to and planning their first fall meeting of the auxiliary. If you attended the June 30th Board Meeting you will have a notebook full of ideas and suggestions for many interesting meetings.

If you did not attend—read your National Bulletin. In it you will find reports of the work being done in other states; you will find inspiration, suggestions and a program outline from which you can sketch out a program which is suitable for your own particular group. You will receive material and guidance from your state and national chairmen, also. Please study this material carefully; it was prepared by your chairmen after much thought for your benefit.

When briefing your chairmen of standing committees, urge them to give their reports from memory or brief notes, rather than to read several pages of printed copy, verbatim. Doing so will involve a little more preparation but the members' interest in and understanding of the subject will be increased.

Plan your meetings carefully, remembering that no good meeting ever just happens. Your reward for the extra time and thought expended on preparation will be a lively and enthusiastic meeting.

The NATIONAL BULLETIN is your magazine; it can be used as a guide for your own group's activities. In it you will find listed the national and state officers and their addresses; you will also find a résumé of the outstanding accomplishments of other auxiliaries which should be an inspiration to you.

The Bulletin and the Handbook are important tools for a county president.

Your own Year Book is now being prepared and will be ready for distribution about the first of September—perhaps by the time you read these lines. We hope you will like it and find it useful—

MRS. EDW. B. HOEVEN

---

#### WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION LEGISLATION PROGRAM, 1953-54

We are fortunate to have an administration in Washington which has promised to be favorable to organized medicine, for it affords us a chance to continue more effectually our fight against socialized medicine.

There are three major pieces of legislation with which the Auxiliary can help at this time: 1. The Bricker Resolution; 2. Bills allowing the deduction from income of expenses for postgraduate courses and advanced professional training, similar to H.R. 4393 by Davis of Georgia; 3. Reed-Keogh type bills, allowing tax deferment for retirement funds of the self-employed.

The Bricker Resolution has a rough road ahead because the administration has reversed itself and is no longer supporting it. It has been reported out of committee with amendments, which adapt it to the American Bar Association's version of this bill. But at this writing it has not been decided whether the Resolution will even be put on the Senate calendar this year. It is felt that continuous pressure should be exerted so that the bill will be considered and favorably reported by the Senate. In the House, H. J. Res. 280, by Reed of Illinois, is identical with the Bricker Resolution as amended, and the members of the Auxiliary should urge consideration and adoption of this Resolution in the House.

The question of taxes is particularly important at this time. In regard to the general tax legislation program, public hearings began on June 16, on a list of forty subjects, covering most aspects of taxation of interest to the medical profession. These hearings were to continue through the summer and early fall, but have been discontinued pending the outcome of the Ways and Means Committee's fight with the Administration.

In these general subjects, there are two points of particular interest to the medical profession. The first is in regard to the deduction of postgraduate education expenses, and this subject has already been heard. The new president of the A.M.A. testified for the association. The second subject which is of particular importance (Reed-Keogh) is No. 36 on the agenda, and, in the normal course of events, will not be reached until late summer. This is the question of allowing tax deferral for the establishment of retirement funds for the self-employed (H.R. 10 and H.R. 11 and others). Generally speaking, this legislation would allow the physician to set aside, on a tax deferred basis, up to ten per cent of his income—but not to exceed \$7,500.00 a year—in a trust fund, from which he may withdraw money on retirement, paying taxes on it at that time.

All the old socialized medicine bills are back, and we must put the fight against socialized medicine on our agenda as permanent unfinished business. We need to keep track of all new bills with medical implications introduced in the Senate or House. Dr. Frank E. Wilson, Director of the A.M.A. Washington office, 1523 L Street, N.W., Washington 5, D.C., will send copies of the *AMA Washington Letter* to each legislation chairman, county and state, as soon as his office receives the name and correct mailing address of the chairman. Names and addresses of county chair-

men should be forwarded through the state chairman to the Auxiliary executive secretary, Miss Margaret Wolfe, 535 N. Dearborn Street, Chicago 10, Illinois.

The *AMA Washington Letter*, as well as material published by the state medical associations, and by the A.M.A., especially the legislative digest of state bills in the Organization section of the *Journal*, should be not only read but studied, so that the Auxiliary members will know the differences between the several bills as they appear and know the opinion of the medical profession on these bills. A reference file should be made of all this material.

County legislation chairmen should be prepared to lead discussions and bring information to their groups. Try to be allowed at least ten minutes on every county program so that you are able to tell the latest developments in Washington regarding pending legislation affecting the medical profession. Watch carefully all legislative activities in the field of public health, medical care, as well as related health and welfare programs in all organizations—local, state and national. Participate in all these.

Co-operation with county and state medical societies and with other committees in the Auxiliary, such as public relations and program, is essential in promoting interest among physicians' families in health legislation. Furnish information to your medical society of the time, place, and name of program chairmen of important meetings on state and county levels, of such organizations as the General Federation of Women's Clubs, American Association of University Women, parent-teachers associations and large church sessions, so that speakers on timely legislative matters can be supplied.

Be sure to maintain friendly relations with elected legislators and congressmen who try hard to represent the viewpoints of their constituents. Visit your Congressman back home, or write honest, sincere letters in your own handwriting. Be sure to write and express appreciation and register approval of his vote.

Use should be made of the *Handbook* of the Woman's Auxiliary, and remember the chief duties of the legislation chairmen are to keep the membership informed, assist the state and county medical societies, and encourage Auxiliary members and their families to exercise the privileges of American citizenship.

MRS. EDGAR E. QUAYLE, *Chairman*

### WHAT MAKES AN AUXILIARY TICK?

I suspect one needs ideals to make an Auxiliary tick. Any new angles, deals, or tricks would hardly make it happen in this day when everything under the sun has been tried to sell an idea. Over and above source material, program planning, suggestions and devices, conviction is the thing—

not a "Pollyanna" conviction, but an actual need with a sincere conviction about that need.

Something that ticks is somethings that goes. Arthur Godfrey ticks, and I don't believe it is because of tricks or new angles. At the moment *Collier's Magazine* has devoted a large amount of space and the cover design to this man to whom thousands pay homage. He receives some 60,000 fan letters per month and over 2,000 gifts of every description. The projection of confidence which is evidenced by so many is an assurance that Godfrey is on the level.

Now I don't expect Auxiliaries to work like Arthur Godfrey, but I do expect them to produce a spark that ignites with the group involved and makes that organization tick. I have mulled over in my mind the times that our Auxiliary seemed to tick, when the members were happy to be together and were glad that they belonged. The "ticking" times were special ones, however; they did not last continuously.

I believe that we can borrow three criteria from a brilliant educator-philosopher-musician who recently summed up for a group of newly-made teachers the requirements for a good lesson. Dr. James Lockhart Mursell, head of the Music Department at Columbia University, lists these three, and I want you to know them, too, and hope that you can use them in your groups. Instead of "lesson" substitute the word "meeting" with these adjectives: (1) Memorable, (2) Interesting (3) Revealing.

"Memorable." Think about some very good meeting that you can recall in your Auxiliary. Was it the hostess who shared her home with you and her gracious attention to everyone's needs? Was it the speaker who commanded your attention? Was it the delicious dinner your favorite committee happened to serve? Was it a project that got skillfully underway or the gratifying summary of a year's work well done?

I recall the State Meeting at Sioux City a few years ago and an especially moving talk that was made by Mrs. Edward B. Hoeven. She gave a memorable talk. It wasn't just the snappy suit and gold loop gypsy earrings, nor was it what she said that moved the group. It was the conviction with which she spoke that made one want to run right home and arouse the entire Auxiliary against socialized medicine. She implanted a personalized spark that made the meeting memorable. There were others, too, who gave convincing evidence of their integrity and sincerity in their work and the urgent need for doing something about what they believed in.

Maybe we all do not have speakers like Mrs. Hoeven and Mrs. Hegg, but we do have our own kind of "tick-making" potentials. And I say potentials because so much good material is lying dormant in most groups. It is the chief job of presidents and their officers and councils to ferret out those slumbering abilities and



give them proper expression. It isn't any easy task, is it? Most of us have become rather skillful at saying "No." But it is possible to find people who are doing and will do memorable jobs and who will ignite the necessary spark in others. Don't go to a meeting with half a heart. You must cover your material and then put something extra into it. And you must go to your meeting prepared.

Now, let's move along to the criterion "Interesting." You have heard a chairman say, "Let's make it interesting!" *Make it interesting?* That's the wrong approach. There is something interesting about everything under the sun. Find out what is interesting about your topic; you don't have to make it over.

What is interesting about an Auxiliary? The one most interesting fact is that all of us are wives of doctors, and more or less stuck with it whether we like it or not. I talked with a very attractive young doctor's wife last evening who felt that doctors' wives have little in common because their backgrounds are so different. Backgrounds are different to begin with, but marriage to a doctor automatically places us in similar backgrounds. Whether you are or were a nurse, teacher, secretary or clerk, when you marry a doctor, you are first and foremost a doctor's wife, with all of the challenge and responsibility which that situation means. And for the sake of good will and friendship, it is good to get together in Auxiliary meetings.

Now, what about the potential "Revealing"? What should a Medical Auxiliary reveal to its members and to the community that watches what it does? Should we just get together for parties or spend lots of money going to Florida and Europe, intentionally or unintentionally impressing our neighbors how comfortably situated we are? Or, are we taking the responsibilities that befit leading citizens in a community? Are we good neighbors in our own communities? Are we friendly and loved, even by those who have less than we do? Or, have we given our friends and neighbors cause for resentment?

One of the comments in the Arthur Godfrey story was the fact that nobody resents his vast earnings. People have even added to them with their excessive gifts. Though Godfrey is the highest paid entertainer on radio and television today, folks don't mind, for he is such a wonderfully friendly kind of fellow.

I am not classing us with Godfrey in any sense of the word, but I am pointing out the effect we may have on our friends and neighbors if we are "too much in ourselves." How can we stem the tide of resentment that floods up in people over the so-called "comfortable" situation of doctors, a situation which makes the public cry for socialized medicine?

I've not given you any answers about how to make an Auxiliary tick, but I hope that I have

challenged you to search in your own material for the solution, bearing in mind the need for integrity of choice, live issues, true values and conviction.

MRS. FREDERIC G. LOOMIS

(Address given at 1953 Annual Meeting in Des Moines)

## Blue Cross-Blue Shield

(Continued from page 385)

questions about Blue Cross for hospital personnel. They work in close harmony with the Blue Cross-Blue Shield physicians' relations staff.

Payments are now made to the hospitals on the basis of semi-annual cost statements, which include depreciation on buildings and equipment. Each year the hospitals must submit statements certified to by a Certified Public Accountant, and payment is based on cost plus 5 per cent, or charges, whichever is lower.

The fact that more and more hospitals are getting 100 per cent of billings from Blue Cross seems to indicate an increasingly close relationship of charges to costs. No doubt this is the result of administrators' having greater confidence in their cost figures, since they are using the accepted accounting methods of the American Hospital Association.

## BLUE SHIELD MONTHLY STATISTICS

August 1, 1953

Blue Shield Members .....	422,139
Claims processed for payment .....	10,303
Amount Paid in Claims .....	\$300,224.41

## SPEAKERS BUREAU RADIO SCHEDULE

WOI—Thursday at 11:15 a.m.

### THE STORY OF SURGERY

September 3 .....	Surgery of the Gall Bladder
September 10 .....	Abdominal Surgery
September 17 .....	Surgery in Infancy
September 24 .....	Surgery in the Chest

WSUI—Tuesday at 11:45 a.m.

### HI—FORUM

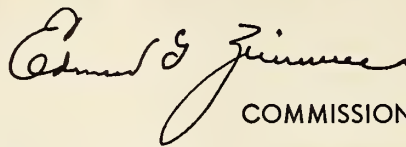
September 1 .....	Fears and Fancies
-------------------	-------------------

### PANORAMA OF RESEARCH

September 8 .....	Aviation Medicine
September 15 .....	Rehabilitation of the Handicapped
September 22 .....	Arthritis
September 29 .....	Geriatrics

Broadcasts over WOI-TV will be resumed during the last week in September. For day and hour, consult your newspaper.

# STATE DEPARTMENT OF HEALTH



COMMISSIONER

## MULTIPLE HOUSEHOLD POLIO

The State Department of Health has formed working plans with the Epidemiologic Branch of the United States Public Health Service for special investigation into multiple cases of poliomyelitis occurring in the same household. This program received the approval of the subcommittee on National Health Agencies of the Iowa State Medical Society, July 29, 1953. Multiple household cases, averaging about 5 per cent of the reported cases of poliomyelitis each year, are being used as a random sampling group for study over the United States to check the efficacy of gamma globulin as a prophylactic agent. For these purposes, multiple household cases are two or more cases of poliomyelitis, paralytic or non-paralytic, occurring in the same household. The onsets of illness need not be simultaneous. Illnesses of some may appear to be secondary to the illnesses of others. These cases need not be relatives, but presumably should have received their infection while they are residents of the household under consideration.

The working plans are that the State Department of Health will immediately report these multiple cases to the Communicable Disease Center in Kansas City. The federal investigators, (physicians, nurses and physical therapists) will see the patient on two occasions. The first visit will be made between seven and fourteen days after the onset of illness for purposes of confirmation of the diagnosis and to establish whether muscle weakness and/or paralysis has occurred. The second visit will be primarily for muscle testing and evaluation. The probable percentage of complete recovery is usually well indicated by that time. No patient will be approached for the initial visit without the approval of the physician in charge of the case.

The form the special investigators will use for the work is that sent out with our morbidity report on July 11. Its use will be restricted to this study. Our Iowa physicians and nurses will continue to use the same report cards and case investigation forms as they did last year, being careful to add:

1. On the report card, whether the case is paralytic or non-paralytic, and,
2. On the poliomyelitis case investigation record,

the names and ages of contacts given the prophylactic gamma globulin and the date the gamma globulin was given.

At any time a multiple household case develops, it should be identified on the report card or case investigation sheet. This may be done by indicating as "Household contact of \_\_\_\_\_, sister (or step-brother, hired man, roomer, etc.)." This will be helpful, whether multiple household reports are mailed in the same mail or a week apart.

Further, in order to help us to recognize and locate these cases, please be careful to give the parent or householder's name. If the householder's surname is the same as the patient's, the given name of the householder is adequate. If the surname is different, it is necessary that we have the householder's full name.

## ISOLATION FOR POLIOMYELITIS\*

The virus of poliomyelitis is found and eliminated from the body in nasopharyngeal secretions and in stools. Nasal excretion of the virus has been reported as early as the fifth day before to as late as 14 days after first symptoms; the average period probably is more like five to seven days after the first symptom. In stools, the virus has been found 19 days before the first symptom, to 100 days after. A study carried out by Yale investigators determined that patients harbored the virus of poliomyelitis in their stools by weeks and proportions as follows: End of two weeks, 61 per cent; end of four weeks, 50 per cent; end of six weeks, 27 per cent; end of eight weeks, 12.5 per cent.

Poliomyelitis is a highly infectious disease. Most people have had it before reaching the age of 21. However, relatively few persons develop the clinically recognized infection, or progress to paralysis. In the most severe epidemics, the number of persons with clinically recognizable poliomyelitis varies between one and ten per 1,000 of the population, with the average more nearly two or three. Such an outbreak of severe proportions was that experienced last year in Sioux City, where upwards of eight per 1,000 were affected. With relation to families in which poliomyelitis occurs, 95 per cent of the families will show only

\* Franklin H. Top, M.D., Professor and Head, Hygiene and Preventive Medicine, College of Medicine, State University of Iowa, Iowa City, Iowa.



one recognizable case. The remainder of the families show multiple cases, more commonly two or three. In hospitals where cases of poliomyelitis are cared for, there is little danger to hospital nursing and medical personnel if proper precautions are taken. In an extended personal experience of over 23 years, I have not experienced such an occurrence. Such cases have been reported, however, but they are rare.

Regulations in the State of Iowa indicate that isolation in home or hospital should be for the acute period of the disease, which is considered as seven days from the onset, or as long as there is temperature elevation. Aseptic technique should be practiced with regard to poliomyelitis patients while they are in isolation. This includes the ordinary concurrent and terminal disinfection procedures carried out for other infectious diseases. Provision should be made for prompt disposal of discharges from the nose and the throat, and following proper disposal of feces, the bedpan should be exposed to live steam for sterilization. The frequent washing of hands must be stressed. Even after the poliomyelitis patient is out of isolation, it is advisable to dispose of nose and throat secretion and of stools in a similar manner, for the Yale data cited above would indicate that many patients will have virus in the stools for periods much longer than the stated isolation required by state law.

During the isolation period, masks need not be used, but the multiple gown technique is strongly urged. Gowns should be discarded for laundering after use in a ward and should not be worn while walking down corridors and halls and from one ward or room to another.

A case need not be kept in a hospital until free from virus (stools), particularly if the patient lives in the same town or state in which he receives his hospital care. However, if a patient is to be dismissed from the hospital or home to another state, the health officer of the state must first be notified. He, in turn, will get in touch with the health officer of the state to which the patient is to be removed.

Except for the initial visit, mild to moderate cases of poliomyelitis should be restricted in the number and frequency of visits allowed. Patients critically ill should be visited more often, but except for those in extremis, one visit per day would be sufficient. Visitors to isolation wards need not be masked.

Any items in the patient's room such as bed or bedside table can be readily washed. It is advisable to wash the floor several times a day, but the washing of walls is unnecessary, except at periodic cleaning intervals. It is, of course, taken for granted that a complete change of linen is made on release of the patient. If covered mattresses are used, new mattresses need not be substituted for the mattress used by the previous patient.

The number of mild cases being cared for in the home is increasing. The isolation time of seven days, or until temperature has subsided, also applies to the home, and it is advisable that at least a modified aseptic technique be carried out in the home, although it is likely that most of the members of the family will have been infected before the disease is recognized. The isolation period for family contacts, — seven days after their last exposure to the infectious case, — will continue to apply, even though these contacts have been given prophylactic gamma globulin. There is no claim that the gamma globulin will prevent the infection. It is hoped however, that it will prevent or reduce the extent of paralysis.

Nasopharyngeal discharges should be disposed of as quickly as possible, and other children and adults, except the caretaker, should be kept from the room in which the patient is isolated.

Mild cases of poliomyelitis can be returned to school after a minimum of two weeks of convalescence unless definite weakness appears, the two-week period beginning at the time the temperature returns to normal.

### COSTS OF UNTREATED SYPHILIS

The present reservoir of untreated syphilis in Iowa is estimated at 18,900 cases. This estimate is based on the fact that Iowa reports 0.9 per cent of the total cases in the United States. The United States Public Health Service has estimated that there are 2,100,000 cases in the United States. It may therefore be assumed that Iowa's portion is .9 per cent of that total, or 18,900 cases. If these cases are not found, late manifestations could be expected to develop as follows:

Disability	Percent* of Total Cases	Number of Cases	Years lost per case	Total man years lost
Paresis .....	2.0	378	23	8,694
Tabes Dorsalis .....	1.0	189	14	2,646
Meningovascular Syphilis				
with Psychoses .....	0.5	94.5	23	2,174
Optic Atrophy .....	0.5	94.5	14	1,323
Cardiovascular Syphilis .....	7.9	1493.1	12	17,917
Total .....		2249.1		32,754

At \$2,246 per capita per year (based on 1951 per capita income for the adult population) and 32,754 man years lost, it is estimated that an income loss of \$73,565,484 would result.

On the basis of 1951 tax rates, the estimated tax payment per adult in 1951 amounted to \$223 and the tax loss for 32,754 man years at 1951 rates would total \$7,304,142. Maintenance of persons in tax supported mental institutions with psychosis

\* These percentages adapted from findings of the Bruusgaard Study—as reported by the Division of Venereal Disease Control, U. S. Public Health Service, Washington, D.C., at the Venereal Disease Control Seminar, Springfield, Illinois, February 20, 1953.

ESTIMATED SAVINGS IN TAX FUNDS AND LIVES ATTRIBUTABLE TO THE VENEREAL DISEASE CONTROL PROGRAM RESULTING FROM THE REDUCTION IN ADMISSIONS TO STATE MENTAL INSTITUTIONS AND REDUCTION IN NUMBER OF DEATHS DUE TO SYPHILIS.

IOWA 1941-1951

Year	Population Iowa**	Actual Admissions to Mental Institutions with Psychoses Due to Syphilis		No. of Admissions which would have occurred had the rate of 2.52/100,000 Population Continued		Reported Deaths Due to Syphilis		Deaths which might have occurred had 1941 rate 8./100,000 Population Continued	Lives Saved in year indicated
		No.	Rate/100,000 Population	No.	Admissions Saved in years indicated.	No.	Rate/ 100,000 Population		
1941	2,548,619					204	8.0		
1942	2,556,899					171	6.7	205	34
1943	2,565,180					163	6.4	205	42
1944	2,573,460					151	5.9	206	55
1945	2,581,741	65	2.52			133	5.2	207	74
1946	2,590,021	65	2.51	65	0	131	5.1	207	76
1947	2,598,302	57	2.19	65	8	151	5.8	208	57
1948	2,606,582	40	1.53	66	26	118	4.5	209	91
1949	2,614,863	47	1.79	66	19	114	4.4	209	95
1950	2,621,073	34	1.29	66	32	108	4.1	210	102
1951	2,631,424	25	0.95	66	41	88	3.3	211	123
Total					126				749

\*\* Division of Vital Statistics, Iowa State Department of Health—Interpolated Estimates.

due to syphilis is estimated to cost \$768.00 per person per year in Iowa. Paretics and those with meningovascular syphilis with psychosis can be expected to number 25 cases per thousand cases of syphilis not found and have an average stay of 10 years in these mental institutions. This would result in 472.5 such cases who would spend a total of 4725 years in these institutions at a total maintenance cost of \$3,628,800.00.

At the estimated average cost of \$768.00 per patient per year and an average stay of ten years, the above savings of 126 admissions to mental institutions would result in an economic saving of \$967,680.00. It is, of course, impossible to place a monetary value on the 749 lives saved during the ten-year period of this report.

Sources: Disability and man years lost: Estimates of Division of Venereal Disease. Economic Data: Survey of Current Business. Dept. of Commerce, March, 1952.

Maintenance Data: Maintenance Expenditures in Public Mental Hospitals, Public Health Reports, July, 1952.

The National Fund for Medical Education has awarded \$29,095 to the College of Medicine at S.U.I. Each of 73 four-year schools received \$15,000, plus \$20 for each undergraduate student. Six two-year basic medical-sciences schools received \$7,500, plus \$20 for each student of medicine. The money is to be used primarily to retain valuable teaching personnel, fill teaching vacancies, and initiate teaching experiments.

## MORBIDITY REPORT

Disease	July 1953	July 1952	June 1953	Most From	Cases These	Reported Counties
Brucellosis	45	45	35	Dubuque	8, others 2 and 1 to a county	
Chickenpox	116	79	361	Boone, Dubuque, Scott		
Diphtheria	0	0	0			
Infectious Hepatitis	112	27	134	Cerro Gordo, Polk, Ringgold, Scott		
Measles	412	145	1620	Cerro Gordo, Dubuque, Scott, Story		
Meningococcus Meningitis	1	3	1	Marshall		
Mumps	198	53	510	Boone, Dubuque, Scott		
Poliomyelitis	59	340	21	Dallas 3, Polk 6, Woodbury 9, Others scattered 2 or 1 to a county, 19 paralytic; 31 non-paralytic; 9 unspecified (at time of reporting)		
Rabies in Animals	12	14	17	Plymouth 2, Story 2, others scattered 1 to a county		
Scarlet Fever	10	14	38	Scattered		
Smallpox	0	0	0			
Typhoid Fever	1	3	2	Pottawattamie		
Whooping Cough	17	7	9	Plymouth, Polk, Pottawattamie		
Tuberculosis	55	69	41	For the state		
Gonorrhea	53	24	59	For the state		
Syphilis	162	55	176	For the state		
Psittacosis	3			(Marshall 2, Pottawattamie 1.)		
Blastomycosis	1			(Hardin Co.)		
R. M. Spotted Fever	1			(Appanoose Co.)		
Salmonellosis	2			(Johnson Co.)		



---

# SOCIETY PROCEEDINGS

---

## MEETINGS

The Scott County Medical Society has voted to set up a Nurses Educational Loan Fund that will pay the tuition and expenses of two nurses during their three years of training at either St. Luke's or Mercy Hospital, Davenport. The physicians of Scott county, through the Scott County Medical Society, also have contributed \$5,000 to the Educational Loan Fund of the Iowa State Medical Society.

---

The Southwest Iowa Medical Society's meeting at Greenfield, on July 15 was attended by 29 physicians. The guest speaker, Dr. R. D. Bernard, general manager of the Iowa State Medical Society, outlined the various services which the Society makes available to practicing physicians.

---

Dr. J. R. Dewey, of Schaller, a past president of the Iowa Division of the American Cancer Society, addressed the Sac County Medical Society, on July 9, on "The Philosophy of Medicine." Dr. Glenn S. Rost, of Lake City, attended the meeting as a guest of the Society.

---

## PERSONALS

**Dr. Robert E. Underriner**, lately of Fort Dodge, has begun general practice in Holstein.

---

The State Board of Control has appointed **Dr. Grace M. Sawyer** superintendent of the State Hospital and School at Woodward. She has been acting superintendent of the institution since September, 1951.

---

**Dr. C. W. Van Natta** has joined **Dr. Fred Sternagel** and **Dr. R. H. Duewall** in general practice at West Des Moines. A graduate of Louisiana State University Medical School, Dr. Van Natta most recently has been on the staff of the U.S.P.H.S. hospitals in Seattle.

---

**Dr. Robert C. Kelley**, a 1951 graduate of the Creighton University Medical School, has begun general practice in Woodbine. He had practiced previously in Omaha.

---

**Dr. Christian E. Schrock** has joined **Dr. George Spellman** in the practice of internal medicine at

Sioux City. Dr. Schrock served his residency at University Hospitals, Iowa City, and was certified by the American Board of Internal Medicine last year.

---

**Dr. James Merritt** has opened an office for general practice in West Des Moines.

---

**Dr. Edwin A. Motto**, a graduate of St. Ambrose College and of Loyola University School of Medicine, in Detroit, has joined **Dr. H. M. Hurevitz** in the practice of internal medicine at Davenport.

---

**Dr. John Hubiak** has associated with **Dr. James McAllister** for the practice of medicine and surgery in Odebolt.

---

After closing his practice in Nichols, **Dr. Howard C. Palmer** entered joint practice with **Dr. A. E. Ady**, in West Liberty, on August 1. Dr. Palmer is a 1945 graduate of the College of Medicine at S.U.I.

---

Over 350 people from Orient and surrounding towns attended an open house at the Orient high school on July 8 honoring **Dr. Eugene Tinsman** for 50 years of medical service to the community.

---

**Dr. W. G. Rence** closed his practice in Sigourney to start a two-year residency in anesthesiology with **Dr. Stewart Cullen** at S.U.I. on June 29.

---

**Dr. R. Giles Gillett** opened an office for the general practice of medicine and surgery at Sigourney on July 2.

---

The third of **Dr. E. M. Kersten's** sons has joined him in practice at the Kersten Clinic, in Fort Dodge. He is **Dr. Paul M. Kersten**, a 1943 graduate of the College of Medicine at S.U.I., and a diplomate of the American Board of Psychiatry, who, for the past three years, has been a staff psychiatrist in the adult division of the Menninger Foundation, in Topeka, Kansas.

---

**Dr. Lester W. Savage** left Harlan on July 1 to take a psychiatric residency at Hines Memorial Hospital, in Chicago. He has been in Harlan since 1947.

---

Having completed his internship at Cook County

Hospital, in Chicago, **Dr. James Jeffries** intends shortly to enter practice in Waterloo.

**Dr. John Sears**, a recent graduate of S.U.I. who did his internship in Ohio, has begun general practice in Alden.

**Dr. L. F. Grams** has left his practice at Buffalo Center to accept a residency in dermatology at S.U.I.

A specialist in internal medicine, **Dr. Robert Todd** has set up practice in Burlington. His boyhood home was in Michigan, he was educated at Rutgers and at New York Medical College, and he has served a three-year residency in his specialty—interrupted by two years of military service in Germany—at Wayne County General Hospital, in Detroit.

**Dr. Harry McMurray** has associated himself with **Dr. Robert Rowley** in general practice at Burlington. Dr. McMurray is a native of southern Illinois, he studied medicine at the University of Illinois, and he interned at Mercy Hospital in Des Moines.

**Dr. Dwayne E. Howard**, who completed his residency at S.U.I. in July, will join **Dr. Wayland Hicks** in the practice of urology at Sioux City on September 1.

On August 1, **Dr. Maynard L. Jones** opened an office for general practice in Colfax. Dr. Jones, who is a graduate of Drake University and of the College of Medicine at S.U.I., did his internship at Broadlawns Hospital, in Des Moines.

**Dr. Wayne B. Brown**, who has been acting superintendent of the State Board of Control's Mental Health Institute at Mount Pleasant since 1949, was appointed superintendent of the institution on July 17.

Twenty Woodbury County doctors met on July 16 to organize what is believed to be the first county chapter of AAGP in Iowa. **Dr. Clarence Goebel** was elected president; **Dr. John S. Tracy**, vice-president; and **Dr. David Kaplan**, secretary-treasurer. All are of Sioux City.

**Dr. Joseph Buckwalter**, an associate in the department of surgery at University Hospitals, Iowa City, has a year's traveling fellowship to study surgery under **Dr. Ian Oird** at the post-graduate medical school of the University of London. He will return to S.U.I. in July, 1954.

**Dr. George T. Grimmer**, of Manchester, has been appointed chief radiologist at the Cedar Val-

ley Hospital, in Charles City. Dr. Grimmer will spend one and two afternoons each week, respectively, as consulting radiologist in Sumner and Osage.

**Dr. Thomas L. Griffith**, a urologist, has joined the staff of Park Hospital, in Mason City. A graduate of the University of Illinois, Dr. Griffith took residency training in urology at Albuquerque and Denver. He comes to Iowa after two years' service with the Air Force.

Nearly a thousand people honored **Dr. Felix A. Hennessy**, of Calmar, on the 45th anniversary of his beginning practice in that community. He is now president of the Winneshiek County Chapter of the Tuberculosis and Health Association, he has long been active in school management at the local level, and he is a past president of the Iowa State Medical Society.

## DEATHS

**Dr. Mary Louise Tinley**, 84, who practiced medicine in Council Bluffs for more than 60 years, died there on July 24. She had never fully recovered from an accident two years ago in which she fractured her hips, but her death, it is reported, is attributable to heart disease. She treated patients, at least intermittently, until about two months ago, and was a life member of the Iowa State Medical Society.

**Dr. Thomas Jerome Burke**, 85, of Davenport, died at Mercy Hospital there on August 3 of cerebral and generalized arteriosclerosis. Dr. Burke, a graduate of Creighton University and of the University of Illinois College of Medicine, practiced in DeWitt, his native town, from 1899 until 1923, and from then until 1949 in Davenport.

**Dr. Benjamin Gregory Williams**, 78, an Oskaloosa physician and surgeon, and the founder of Mercy Hospital there, died at St. Joseph's Hospital in Brainerd, Minnesota, on August 1 after a week's serious illness. Dr. Williams, a life member of the Iowa State Medical Society, had been in retirement for several years.

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of August 10, 1953

**Ackerman, J. H.**, Clarksville  
(Atlanta, Georgia) . . . . .Sr. Asst. Surgeon, U.S.P.H.S.  
**Arnold, K. E.**, Sioux City  
(Port Hueneme, Calif.) . . . . .Lt. (j.g.), U.S.N.R.  
**Bartholomew, R. D.**, Lake City  
(Walnut Creek, Calif.) . . . . .Lt. (j.g.), U.S.N.R.  
**Benton, J. S.**, Des Moines. . . . .1st. Lt., A.U.S.



- Bogle, W. C., Marion  
(Great Lakes, Ill.) .....Lt., U.S.N.R.
- Braatelen, N. T., Des Moines  
(Rock Island, Ill.) ..... 1st Lt., U.S.A.F.
- Brennan, J. E., Des Moines  
(Camp Pendleton, Calif.) .....Lt., U.S.N.R.
- Broman, J. A., Maquoketa  
(Ft. Sill, Okla.) ..... Capt., A.U.S.
- Buzan, E. F., Des Moines  
(Yuma, Arizona)
- Christensen, J. R., Eagle Grove  
(Battle Creek, Mich.) .....Lt., A.U.S.
- Cline, H. L., Iowa City  
(Denver, Colorado) ..... A.U.S.
- Couchman, P. G., Des Moines  
(Battle Creek, Mich.) ..... 1st Lt., U.S.A.F.
- Daut, R. V., Davenport  
(Westover Field, Massachusetts) ....Capt., U.S.A.F.
- Davidson, M. C., Emmetsburg  
(El Paso, Tex.) .....Col., A.U.S.
- Donahoe, J. F., Fort Dodge  
(Des Moines, Iowa) .....1st Lt., A.U.S.
- Dooley, J. E., Fort Dodge  
(Pleasanton, Calif.) .....Capt., U.S.A.F.
- Dunseth, W. R., Kellogg .....A.U.S.
- Eckhardt, R. D., Iowa City  
(Portsmouth, Virginia) ..... Lt., U.S.N.R.
- Field, C. A., Cresco  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.
- Foley, W. E., Jr., Davenport  
(Phoenix, Arizona) .....Capt., U.S.A.F.
- Garred, J. L., Whiting  
(San Diego, Calif.) .....U.S.N.R.
- Garred, W. P., Dow City
- Giles, F. E., Cresco  
(Ft. Sam Houston, Tex.) .....A.U.S.
- Godbey, M. E., Mt. Pleasant  
(Gunter A.F.B., Montgomery, Ala) 1st Lt., U.S.A.F.
- Haskell, J. G., Reinbeck
- Hickman, D. M., Indianola  
(Alexandria, Louisiana) ..... 1st Lt., U.S.A.F.
- Horton, R. R., Algona  
(Bremerton, Washington) .....Lt., U.S.N.R.
- Isham, R. B., Osage .....U.S.N.R.
- Iwen, G. W., Iowa City
- Jenkins, H. F., Ogden  
(Randolph A.F.B., Texas) .....U.S.A.F.
- Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) .....Capt., U.S.A.F.
- Johnson, M. H., Iowa City  
(APO New York, N. Y.) .....Capt., A.U.S.
- Johnson, W. A., Emmetsburg  
(Corona, California) .....Lt., U.S.N.R.
- Judiesch, K. J., Iowa City  
(Ft. Sam Houston, Tex.) .....1st Lt., A.U.S.
- Kenney, B. E., Woodbine  
(Raleigh, North Carolina) .....1st Lt., U.S.A.F.
- Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) .....Lt., U.S.N.R.
- Kuehn, W. G., Clarinda  
(A.P.O. San Francisco, Calif.) .....Lt., U.S.N.R.
- Kuehnle, G. R., Dubuque  
(Baton Rouge, La.)
- Kurth, R. J., Waterloo  
(Minneapolis, Minn.) .....Capt., U.S.A.F.
- Larson Erling, Jr., Des Moines (Indianapolis, Indiana)  
Lt. (j.g.) USNR
- Leiter, E. R. K., Des Moines  
(Bangor, Me.) .....Capt., U.S.A.F.
- McMahon, A. E., Jr., Des Moines (Omaha, Nebraska)  
USNR
- Martins, J. K., Waterloo  
(Bayonne, N. J.) ..... Lt., U.S.N.R.
- Maxwell, J. R., Iowa City  
(Ft. Sam Houston, Tex.) .....1st Lt., A.U.S.
- Middleton, W. H., Central City  
(Bethesda, Maryland) .....U.S.N.R.
- Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) .....Lt. Col., A.U.S.
- Nielsen, G. E., Des Moines  
(Topeka, Kan.) ..... 1st Lt., U.S.A.F.
- Paul, R. E., Des Moines  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.
- Peterson, L. G., Holstein  
(Ft. Sam Houston, Tex.) ..... A.U.S.
- Pfaff, R. A., Dubuque  
(Camp Pendleton, Calif.) ..... Lt., U.S.N.R.
- Prendergast, L. J., Iowa City  
(Oceanside, California) ..... U.S.N.R.
- Province, Wm., Jr., Dubuque  
(Long Beach, Calif.) .....U.S.N.R.
- Puntenney, A. W., Boone  
(Portsmouth, Va.) .....Lt., U.S.N.R.
- Rhode, M. C., Iowa City  
(Philadelphia, Pa.)
- Saunders, R. J., Colfax  
(APO San Francisco, Calif.) ..... 1st Lt., U.S.A.F.
- Schlichtemeier, E. O., Peterson  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.
- Shaffer, F. J., Iowa City .....Col., U.S.A.F.
- Shuldberg, Arthur, Des Moines  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
- Sinton, D. W., Iowa City  
(Colorado Springs, Colorado) .....A.U.S.
- Smith, C. B., Iowa City  
(Bowling Green, Ky.) .....Capt., A.U.S.
- Spohnheimer, L. N., Donnellson  
(Randolph A.F.B., Texas) ..... 1st Lt., U.S.A.F.
- Stivers, T. W., Des Moines  
(Hutchinson, Kansas) .....Lt. (jg) U.S.N.R.
- Stutsman, R. E., Washington  
(Miami, Fla.) .....Cmdr., U.S.N.
- Sugioka, Kenneth, Iowa City  
(Long Island, N. Y.) ..... A.U.S.
- Theilen, E. O., Iowa City  
(Washington, D. C.) .....Capt. A.U.S.
- Thistlewaite, E. A., Des Moines  
(Riverside, Calif.) .....1st Lt., U.S.A.F.
- Thompson, J. W., Ames  
(Camp Breckinridge, Kentucky) .... Capt., A.U.S.
- Thornton, F. E., Des Moines  
(Portsmouth, Va.) .....Lt. Cmdr., U.S.N.R.
- Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) .....1st Lt., A.U.S.
- Uchiyama, J. K., Des Moines  
(Wichita Falls, Texas) ..... 1st Lt., U.S.A.F.
- Vincent, J. F., Fort Dodge  
(Langley A.F.B., Va.) .....Capt., U.S.A.F.
- von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) .....Lt., U.S.N.R.
- Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) .....U.S.N.R.
- Wall, J. M., Boone  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
- Walker, J. R., Waterloo  
(Bethesda, Maryland) ..... Lt., U.S.N.R.
- Walston, J. H., Graettinger  
(Lackland A.F.B., Texas) .....1st Lt., U.S.A.F.
- Watson, C. F., Stacyville  
(Hot Springs, Ark.) .....U.S.P.H.S.
- Westly, J. S., Mason City  
(Norfolk, Virginia) .....Lt., U.S.N.R.
- Wiedemeier, J. L., Sioux City  
(APO San Francisco, Calif.) .....1st Lt., A.U.S.
- \*Wilkins, D. S., Iowa City  
(APO San Francisco, Calif.) .....Capt., A.U.S.
- Witte, H. J., Marathon  
(San Francisco, Calif.) .....Lt. Col., A.U.S.
- Young, R. A., Clarion  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.
- Zeilenga, R. H., Orange City  
(Madison, Wisc.) .....1st Lt., U.S.A.F.

\* Deceased

# COUNTY MEDICAL SOCIETY OFFICERS

COUNTY	PRESIDENT	SECRETARY	DEPUTY COUNCILOR
Adair.....	L. H. Ahrens, Fontanelle.....	A. J. Gantz, Greenfield.....	A. S. Bowers, Orient
Adams.....	A. W. Brunk, Prescott.....	J. C. Nolan, Corning.....	A. W. Brunk, Prescott
Allamakee.....	M. F. Kiesau, Postville.....	R. R. Jeffries, Waukon.....	C. R. Rominger, Waukon
Appanoose.....	C. F. Brummitt, Centerville.....	A. S. Owca, Centerville.....	E. A. Larsen, Centerville
Audubon.....	R. H. Payne, Exira.....	N. C. Knosp, Belle Plaine.....	L. E. Jensen, Audubon
Benton.....	L. W. Kootz, Vinton.....	N. C. Knosp, Belle Plaine.....	N. C. Knosp, Belle Plaine
Black Hawk.....	F. H. Reuling, Waterloo.....	Don Michaelson, Boone.....	Craig D. Ellyson, Waterloo
Boone.....	R. S. Shane, Pilot Mound.....	R. P. Hardwig, Waverly.....	F. R. Sparks, Waverly
Bremer.....	R. E. Shaw, Waverly.....	J. F. Loock, Independence.....	J. F. Loock, Independence
Buchanan.....	J. W. Barrett, Jr., Independence.....	T. E. Shea, Storm Lake.....	H. E. Farnsworth, Storm Lake
Buena Vista.....	J. A. Cornish, Storm Lake.....	F. F. McKean, Allison.....	F. A. Rolfs, Applington
Butler.....	M. D. Enna, Dumont.....	W. Ashton McCrary, Lake City.....	W. W. Weber, Pomeroy
Calhoun.....	R. G. Klocksiem, Rockwell City.....	J. M. Tierney, Carroll.....	J. R. Martin, Carroll
Carroll.....	P. L. Pascoe, Carroll.....	D. E. Wilcox, Atlantic.....	Ralph Moe, Griswold
Cass.....	J. F. Moriarty, Atlantic.....	O. E. Kruse, Tipton.....	P. M. Hoffman, Tipton
Cedar.....	H. E. O'Neal, Tipton.....	J. E. Christopherson, Mason City.....	L. R. Woodward, Mason City
Cerro Gordo.....	D. W. Thomas, Mason City.....	J. B. Blair, Cherokee.....	C. E. Broderick, Cherokee
Cherokee.....	D. C. Koser, Cherokee.....	J. H. Ahrens, New Hampton.....	M. J. McGrane, New Hampton
Chickasaw.....	A. L. Murphey, Fredericksburg.....	H. N. Boden, Osceola.....	H. E. Stroy, Osceola
Clarke.....	C. R. Harken, Osceola.....	C. C. Jones, Spencer.....	C. C. Jones, Spencer
Clay.....	G. F. Fieselmann, Spencer.....	A. R. Powell, Elkader.....	P. R. V. Hommel, Elkader
Clayton.....	T. W. Lichter, Edgewood.....	D. F. Mirick, Clinton.....	R. F. Luse, Clinton
Clinton.....	R. E. Dwyer, Clinton.....	R. M. Johnson, Dennison.....	R. M. Johnson, Denison
Crawford.....	M. U. Broers, Schleswig.....	W. C. Wildberger, Perry.....	A. M. Nicoll, Panora
Dallas-Guthrie.....	C. A. Nicoll, Panora.....		
Davis.....	E. O. Gilfillan, Bloomfield.....	W. D. Haupe, Bloomfield.....	A. M. Cochrane, Adel
Decatur.....	G. W. Swanson, Lamoni.....	W. N. Doss, Leon.....	W. N. Doss, Leon
Delaware.....	R. E. Clark, Manchester.....	J. E. Tyrell, Manchester.....	J. W. Willett, Manchester
Des Moines.....	J. F. Sulzbach, Burlington.....	W. C. Friday, Burlington.....	F. G. Ober, Burlington
Dickinson.....	J. J. Buchanan, Milford.....	R. F. Wolcott, Spirit Lake.....	T. L. Ward, Arnolds Park
Dubuque.....	L. A. Faber, Dubuque.....	P. J. Laube, Dubuque.....	D. F. Ward, Dubuque
Emmet.....	M. T. Morton, Estherville.....	E. K. Vaubel, Estherville.....	C. S. Kirkegaard, Estherville
Fayette.....	L. W. Ward, Oelwein.....	R. S. Jaggard, Oelwein.....	A. F. Grandinetti, Oelwein
Floyd.....	W. C. Baltzell, Charles City.....	E. V. Ayers, Charles City.....	E. J. Goen, Charles City
Franklin.....	W. L. Randall, Hampton.....	Dorothy Heuerman, Coulter.....	W. L. Randall, Hampton
Fremont.....			R. Lovelady, Sidney
Greene.....	E. D. Thompson, Jefferson.....	G. F. Canady, Jefferson.....	M. H. Brinker, Jefferson
Grundy.....	H. V. Kahler, Reinbeck.....	W. K. Kienzie, Wellsburg.....	E. A. Reedholm, Grundy Center
Hamilton.....	R. A. Patterson, Webster City.....	W. B. McGahey, Webster City.....	B. F. Howar, Webster City
Hancock-Winnebago.....	L. W. Eller, Kanawa.....	K. J. Kroack, Buffalo Center.....	T. J. Irish, Forest City
Hardin.....	P. F. Tempel, Steamboat Rock.....	F. N. Cole, Iowa Falls.....	L. F. Parker, Iowa Falls
Harrison.....	Hans Hansen, Logan.....	F. X. Tamisea, Missouri Valley.....	A. C. Bergstrom, Missouri Valley
Henry.....	K. P. Beebe, Mt. Pleasant.....	R. B. Widmer, Winfield.....	J. R. Beebe, Mt. Pleasant
Howard.....	P. A. Nierling, Cresco.....	D. O. Maland, Cresco.....	P. A. Nierling, Cresco
Humboldt.....	A. S. Arent, Humboldt.....	A. E. Jensen, Humboldt.....	I. T. Schultz, Humboldt
Ida.....	E. H. Heilman, Ida Grove.....	J. B. Dressler, Ida Grove.....	M. W. Grubb, Galva
Iowa.....	L. A. Miller, North English.....	I. J. Sinn, Williamsburg.....	C. F. Watts, Marengo
Jackson.....	O. L. Frank, Maquoketa.....	J. J. Tilton, Bellevue.....	F. J. Swift, Maquoketa
Jasper.....	L. H. Koelling, Newton.....	L. D. Norris, Newton.....	J. W. Ferguson, Newton
Jefferson.....	Ludwig Gittler, Fairfield.....	Frank H. McClurg, Fairfield.....	R. A. McGuire, Fairfield
Johnson.....	A. E. Braley, Iowa City.....	J. S. Greenleaf, Iowa City.....	G. C. Albright, Iowa City
Jones.....	C. R. Smith, Wyoming.....	R. W. Myers, Monticello.....	T. M. Redmond, Anamosa
Keokuk.....	E. R. Gann, Sigourney.....	A. M. Harwood, Sigourney.....	D. L. Grothaus, Delta
Kossuth.....	L. O. Snook, Wesley.....	J. M. Schutter, Algona.....	M. G. Bourne, Algona
Lee.....	F. L. Steffey, Keokuk.....	Sebastian Amberry, Keokuk.....	L. C. Pumphrey, Keokuk
Linn.....	R. Y. Netolicky, Cedar Rapids.....	E. L. Lindley, Cedar Rapids.....	F. L. Feighner, Fort Madison
Louisia.....	E. S. Groben, Columbus Jct.....	J. H. Chittum, Wapello.....	J. H. Chittum, Wapello
Lucas.....	H. D. Jarvis, Chariton.....	R. E. Anderson, Chariton.....	R. E. Anderson, Chariton
Lyon.....	H. H. Gessford, George.....	S. H. Cook, Rock Rapids.....	S. H. Cook, Rock Rapids
Madison.....	R. W. Carson, Winterset.....	J. E. Evans, Winterset.....	C. B. Hickenlooper, Winterset
Mahaska.....	E. B. Wilcox, Oskaloosa.....	G. S. Atkinson, Oskaloosa.....	E. B. Wilcox, Oskaloosa
Marion.....	R. B. May, Knoxville.....	J. W. Doles, Knoxville.....	H. L. Bridgeman, Knoxville
Marshall.....	R. M. Wolfe, Marshalltown.....	H. E. Sauer, Marshalltown.....	R. C. Carpenter, Marshalltown
Mills.....	W. A. DeYoung, Glenwood.....	T. E. Shonka, Malvern.....	W. A. DeYoung, Glenwood
Mitchell.....	W. E. Owen, St. Ansgar.....	R. H. Huber, Osage.....	T. E. Blong, Stacyville
Monona.....	J. L. Garred, Whiting.....	P. L. Wolpert, Onawa.....	C. W. Young, Onawa
Monroe.....	R. A. Smith, Albia.....	H. J. Richter, Albia.....	H. J. Richter, Albia
Montgomery.....	Oscar Alden, Red Oak.....	S. R. Smith, Red Oak.....	E. L. Croxdale, Villisca
Muscatine.....	R. W. Asthalter, Muscatine.....	L. H. Whitmer, Muscatine.....	C. P. Phillips, Muscatine
O'Brien.....	A. D. Blenderman, Paullina.....	W. S. Balkema, Sheldon.....	T. D. Kas, Sutherland
Osceola.....	E. S. Aelits, Sibley.....	F. M. Rizzo, Sibley.....	F. M. Rizzo, Sibley
Page.....	G. H. Powers, Shenandoah.....	S. T. Ramsdell, Clarinda.....	C. H. Flynn, Clarinda
Palo Alto.....	R. D. Workman, Ruthven.....	C. C. Moore, Emmetsburg.....	H. L. Brereton, Emmetsburg
Plymouth.....	R. J. Fisch, LeMars.....	L. C. O'Toole, Le Mars.....	H. L. Vander Stoep, Le Mars
Pocahontas.....	W. F. Brinkman, Pocahontas.....	C. L. Jones, Gilmore City.....	C. L. Jones, Gilmore City
Polk.....	F. M. Burgeson, Des Moines.....	F. C. Coleman, Des Moines.....	M. T. Bates, Des Moines
Pottawattamie.....	H. W. Mathiasen, Council Bluffs.....	A. M. Pedersen, Council Bluffs.....	C. V. Edwards, Council Bluffs
Poweshiek.....	E. S. Korfmacher, Grinnell.....	L. C. Hickerson, Brooklyn.....	S. D. Porter, Grinnell
Ringgold.....	E. J. Watson, Diagonal.....	J. W. Hill, Mt. Ayr.....	E. J. Watson, Diagonal
Sac.....	J. H. Stafford, Sac City.....	L. D. Amick, Sac City.....	C. E. Lerman, Lake View
Scott.....	J. F. Bishop, Davenport.....	A. B. Hendricks, Davenport.....	P. A. White, Davenport
Shelby.....	J. H. Spearing, Harlan.....	E. J. Vosika, Shelby.....	R. E. Donlin, Harlan
Sioux.....	M. O. Larson, Hawarden.....	C. B. Murphy, Alton.....	William Doornink, Orange City
Story.....	G. E. Montgomery, Ames.....	W. B. Armstrong, Ames.....	J. D. Conner, Nevada
Tama.....	C. W. Mapletorpe, Jr., Toledo.....	A. J. Havlik, Tama.....	A. J. Havlik, Tama
Taylor.....	R. W. Boulden, Lenox.....	H. C. Moore, Clearfield.....	G. W. Rimel, Bedford
Union.....	J. L. Hoyt, Creston.....	H. J. Peggs, Creston.....	H. G. Beatty, Creston
Van Buren.....	R. E. Olsen, Milton.....	J. T. Worrell, Keosauqua.....	L. A. Coffin, Farmington
Wapello.....	D. E. Emanuel, Ottumwa.....	E. B. Hoeven, Ottumwa.....	C. A. Henry, Farson
Warren.....	C. A. Trueblood, Indianola.....	R. C. McGeehon, Indianola.....	C. A. Trueblood, Indianola
Washington.....	G. J. Nemmers, Washington.....	W. S. Kyle, Washington.....	M. L. McCreedy, Washington
Wayne.....	L. B. Calbreath, Humeston.....	C. F. Brubaker, Corydon.....	J. H. McCall, Allerton
Webster.....	F. S. Larsen, Fort Dodge.....	J. R. Kersten, Fort Dodge.....	C. J. Baker, Fort Dodge
Winnebick.....	L. E. Larson, Decorah.....	A. F. Fritchen, Decorah.....	
Woodbury.....	R. C. Mugan, Sioux City.....	P. W. Osincup, Sioux City.....	D. B. Blume, Sioux City
Worth.....	G. S. Westly, Manly.....	B. H. Osten, Northwood.....	R. L. Olson, Northwood
Wright.....	R. C. Eaton, Clarion.....	J. R. Christensen, Eagle Grove.....	S. P. Leinbach, Belmond



# The JOURNAL

of the

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, OCTOBER, 1953

No. 10

### COMPARATIVE RADIOTHERAPEUTIC RESULTS IN CARCINOMA OF THE CERVIX UTERI AS MODIFIED BY PRIOR SURGERY AND RADIATION

HOWARD B. HUNT, M.D.\*  
OMAHA, NEBRASKA

OF ALL CANCERS in women, about 25 per cent involve the genital tract, and of these about two-thirds involve the cervix uteri. The other third involve the corpus uteri (20 per cent), ovaries (10 per cent), vulva (3 per cent), and vagina and miscellaneous regions (3 per cent). The anatomic distribution of gynecologic cancer among patients admitted to the University of Nebraska Hospital as detailed below, emphasizes involvement of the uterus in nearly 85 per cent of cases. The ratio of cervical to endometrial cancer is only three to one in this series, whereas a more usually reported ratio is from five up through ten to one.

#### GYNECOLOGIC CANCER, 1930-52 University of Nebraska Hospital

Region	Cases	Per Cent
Cervix Uteri .....	449	62.9
Fundus Uteri .....	148	20.7
Ovary .....	84	11.8
Vulva .....	17	2.4
Vagina, Misc. ....	16	2.2

The absolute five-year survival rates for gynecologic cancer seen in state patients at the University of Nebraska Hospital and in private patients at the Nebraska Methodist Hospital during ten and fifteen year periods prior to 1947 are listed below. All cases seen are included regardless of modification by previous therapy and including terminal cases unsuited for any definitive therapy. Although case follow-up has been maintained in over 98 per cent of cases seen, all cases lost are considered dead.

Exclusion of cases modified by previous therapy would have increased the survival rate in cancer

\* From the Departments of Radiology of the University of Nebraska and Nebraska Methodist Hospitals.

### GYNECOLOGIC CANCER—ABSOLUTE 5 YEAR SURVIVAL

	Total Cases	Living 5 Years	Status
Cervix Uteri, UNH .....	232	40.9%	State
(1937-47) NMH .....	131	52.7%	Private
Fundus Uteri, UNH .....	69	43.5%	State
(1937-47) NMH .....	40	62.5%	Private
Ovary (1932-47) UNH .....	68	20.6%	State
Vulva (1932-47) UNH .....	12	41.6%	State
Vagina (1932-47) UNH .....	7	—	State

of the cervix at the University of Nebraska Hospital from 40.9 per cent to 43.1 per cent and at the Nebraska Methodist Hospital from 52.7 per cent to 57.9 per cent absolute survival at five years as shown in table 1-AB. The higher five-year survival rates shown at the Nebraska Methodist Hospital for carcinomas of the cervix and endometrium reflect that more favorable case material and earlier stages of disease are seen in private practice. Cancer is amenable to control according to the stage at which treatment is initiated, the natural course of the disease, the adequacy of initial radiation or surgery, the accessibility and sensitivity of disease to radiation, the resectability of the lesion and operability of the patient, and the general health and tolerance of the patient. Fortunately, the uterus is not only the most common site but also the location most favorable for control of gynecologic cancer.

Treatment in cancer of the cervix uteri is being currently modified by various influences — (1) earlier diagnosis, (2) diverse implications of carcinoma "in situ," (3) renewed interest in extra radical surgery, as promoted by Meigs<sup>1</sup> and by Brunschwig,<sup>2</sup> (4) more effective utilization of conventional x-ray and radium, and (5) the development of new modalities for radiation therapy, such as ultrapenetrating megavolt roentgen and radiocobalt therapy, rotational irradiation and the experimental use of radiogold. The earlier diagnosis of uterine cancer is being promoted by more routine digital and specular pelvic examination of women by their doctors. Cytologic screening is detecting numerous cases of preclinical carcinoma with a reliability of 90 to 95 per cent in cervical and 80 to 90 per cent in endometrial lesions.

TABLE I

Stage League of Nations	Unmodified Cases Primary Radiotherapy				Surgery Prior to Radiotherapy				Prior Radiotherapy by Others			
	Cases		Survival		Cases		Survival		Cases		Survival	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
A												
Univ. of Nebraska Hosp. (State)												
1	57	27	40	70.2	5	46	3	60	2	20	1	50
II	96	45	44	45.8	3	27	-	0	2	20	-	0
III	38	18	5	13.2	1	9	-	0	1	10	-	0
IV	20	10	2	10.0	2	18	-	0	5	50	-	0
All	211		91	43.1	11		3	27.3	10		1	10.
B												
Neb. Meth. Hosp. (Priv.)												
1	51	48	39	76.5	8	47	6	75				
II	38	35	17	44.7	4	24	1	25	3	30	-	0
III	12	11	5	41.7	2	12	-	0	2	20	-	0
IV	6	6	1	16.7	3	17	-	0	5	50	-	0
All	107		62	57.9	17		7	41	10		0	0
C												
Univ. of Neb. & Meth. Hosp. (Comb.)												
1	108	34	79	73.1	13	47	9	69.2	2	10	1	50
II	134	42	61	45.5	7	25	1	14.3	5	25	-	0
III	50	16	10	20.	3	10	-	0	3	15	-	0
IV	26	8	3	11.5	5	18	-	0	10	50	-	0
All	318		153	48.1	28		10	35.7	20		1	5

It is particularly important that an accurate diagnosis be established by cervical biopsy and/or endometrial curettage prior to any hysterectomy done for abnormal bleeding, discharge, cervicitis or supposed "fibroids," if uterine cancer is to be properly identified and effectively treated. A recent study by Doyle<sup>3</sup> of 6,248 serial hysterectomies done in general hospitals revealed that existing carcinoma of the uterus was unsuspected in 25 per cent of all cases of the cervical and endometrial carcinoma found in surgery. In as much as cervical biopsy and diagnostic curettage are necessarily done per vaginam, these procedures must precede laparotomy. A correct preoperative diagnosis of cancer in these unsuspected lesions would usually have modified or extended the therapeutic procedure. The cervical stump with residual cancer would not have been allowed to persist. Carcinoma of the cervix would have been treated by total hysterectomy. Carcinoma of the endometrium would usually have received preoperative irradiation followed by total hysterosalpingo-oophorectomy, as recommended by Randall<sup>4</sup>, Scheffey<sup>5</sup> and others.

Carcinoma "in situ" has recently become a fashionable histopathologic category, too often

based on insecure criteria and consequently having unreliable clinical implications, as Novak<sup>6</sup> has pointed out. It may represent a noncancerous epidermization of cervical glands or the occasional basophilic hyperplasia of pregnancy, as noted by Brown and Jernigan,<sup>7</sup> either of which may at times simulate noninvasive carcinoma histologically. In some cases the noninvasive lesion may represent an outlying area of a true carcinoma which is actually invasive in other regions. Therefore a so-called "in situ" lesion may in fact be either a noncancerous process, an invasive cancer, a noninvasive precancerous process or actually an "in situ" carcinoma. A pathologic diagnosis of "carcinoma in situ" may be further clarified through review of sections by another pathologist, by a wide circular biopsy of the cervix, or, as in the case of pregnancy, by awaiting post-puerperal involution. Nielsen<sup>8</sup> found that only 15 per cent of patients with "in situ" lesions went on to develop clinical carcinoma over a period of ten years. A noncancerous lesion requires no further treatment beyond periodic observation. An evidently noninvasive carcinoma may be treated by total hysterectomy, with further examination of the removed uterus by multiple radial micro-



scopic sections for determination of possible invasion. The lesion shown by wider biopsy to be invasive should be treated as any other Stage 1 carcinoma of the cervix.

Clinical carcinoma of the cervix is more effectively treated by proper radiotherapy than by the usual radical hysterectomy. The primary lesion in the cervix is accessible for treatment by radium along the uterine canal and across the vaginal vault and by x-ray therapy through transvaginal cones, as Erskine<sup>9</sup> has shown. Paracervical extension can be given additional effective radiation by radium foci in the lateral fornices, by obliquely directed transvaginal x-ray and, in the case of persistent masses, by interstitial radium. Involvement of the vaginal wall by direct infiltration or by submucosal lymphatic metastases can be effectively irradiated by a cylindrical plastic applicator mounting radium capsules along grooves in an encased piston. Supplementary radiation can be added to paravaginal extensions by interstitial radium and external roentgen therapy. Metastases in the iliac and obturator nodes along the pelvic wall usually receive about 2,000 to 2,400 gamma roentgens from the radium applicators, which is equivalent to about one third of an accepted cancerocidal dose. One can deliver an additional 2,000 to 3,000 roentgens by external high-voltage roentgen therapy over a period of

three to six weeks, thereby controlling some of the more radiosensitive and centrally placed metastatic nodes. The failures of radiation therapy in carcinoma of the cervix uteri arise primarily in persisting carcinoma in the outlying pelvic and periaortic nodes. Even in those more advanced cases wherein eradication or control of cancer by irradiation is impractical, the growth of disease is restrained, and the symptoms of bleeding and discharge are alleviated.

The results of radiotherapy in carcinoma of the cervix uteri have improved remarkably during the past twenty years. Not only are more patients being cured of cancer of the cervix but also fewer postirradiation complications are being encountered. Our overall absolute five-year survivals at the University of Nebraska Hospital have risen from 20.5 per cent in 1931-36 to 40.9 per cent in 1937-47 as shown in Figure 1. Our absolute five year survival rates in all 318 unmodified cases of 48.1 per cent (See Table 1-C) and of 57.9 per cent in the 107 unmodified private cases (See Table 1-B) compare favorably with the 49.2 per cent for 1945-46 reported by Kottmeier<sup>10</sup> at the Radiumhemmet, and the 56.1 per cent at the Jubilee Clinic in Sweden.

It seems improbable that radical surgery can provide absolute five year survival rates in unselected clinical carcinoma of the cervix compar-

## CARCINOMA OF CERVIX 1937-47

NEBRASKA METHODIST HOSPITAL AND UNIVERSITY OF NEBRASKA HOSPITAL

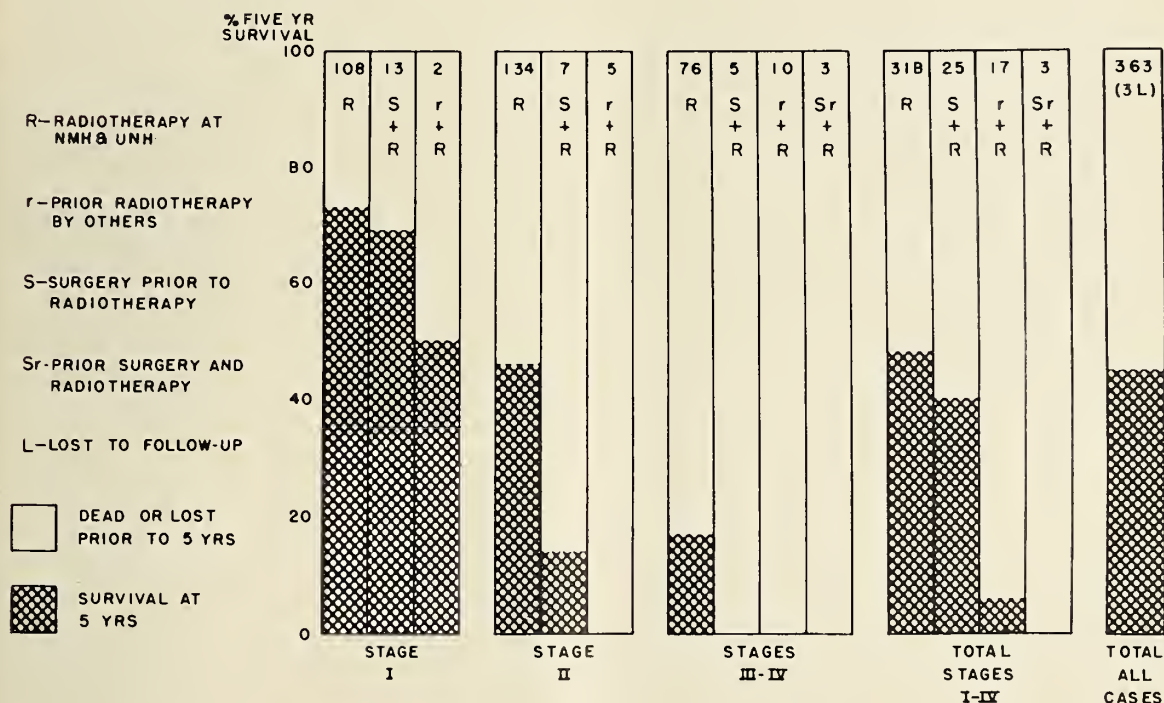


Fig. 1. Carcinoma cervix uteri, absolute 5 year survivals including all cases, University of Nebraska Hospital, 1931-47.

able to those attained by radiotherapy. "In situ" lesions must be excluded from consideration, since they are not necessarily carcinoma and will misleadingly elevate the percentage of survivals. The master surgeon Bonney<sup>11</sup> attained an absolute five-year survival of 25 per cent in all cases seen with an operability of 63 per cent. His five-year survival in all cases subjected to radical hysterectomy with lymph node dissection was 40 to 41 per cent. The superb record in total hysterectomy with radical lymph node dissection achieved by Meigs in selected Stage I and II L. N. cases, which yielded an absolute five-year survival of 75 per cent, can, we have demonstrated, be equalled by good conventional roentgen and radium therapy in a comparably selected group of cases.

Very few surgeons have the skill and experience properly to conduct a radical pelvic lymph node dissection, which is the crux of the entire operative procedure and is the feature that makes it superior to the usual Wertheim operation. Meigs<sup>1</sup> found that 18 per cent of Stage I and 32 per cent of Stage II lesions had nodal metastases. In the patients with nodal metastases, Meigs achieved a five-year survival of 42 per cent of those in Stage I and only 9 per cent of those in Stage II. Evidence has been submitted by Morton<sup>12</sup> to indicate that nodal metastases can in some degree be controlled by irradiation, since he found involved nodes in 39.3 per cent of nonirradiated cases and in only 11.4 per cent of cases irradiated prior to surgery. Our five-year survival was 76.1 per cent in all 59 Stage I, L.N. private cases and 73.1 per cent in the combined state and private series of 106 Stage I cases. Meigs<sup>13</sup> states "The value of radiation has been proved, and this should be the treatment for cancer of the cervix except in institutions equipped for investigative radical surgery. We deplore the number of total hysterectomies done under the guise of the radical operation for cancer of the cervix."

Carcinoma of the cervix uteri modified by previous extensive surgery or radiation is always less favorable for radiotherapy than unmodified cases of comparable stage. Previous hysterectomy excludes the possibility of intra-uterine placement which automatically reduces the effectiveness of general irradiation of the paracervical tissues and regional nodes. The total dose of radium must be reduced 40 to 60 per cent as a result of its limitation to the vaginal vault and cervical stump. Simple amputation or extensive conization of the cervix increases the incidence of such postirradiation complications as vesico-vaginal fistula and does not contribute to the curability of the disease. One can remove exophytic bulky masses from the cervix, thereby facilitating the immediate placement of radium across the cervical face and in the canal, but it is equally true that such masses can be effectively shrunken by preliminary transvaginal x-ray or radium across the vault. All

indeterminate cervical tissues removed at primary conization, cautery or amputation must always be subjected to microscopic examination, since therein lies the clue to carcinoma which may otherwise continue to be undiagnosed until advanced to an incurable stage.

In our present series of 363 cases of carcinoma of the cervix uteri, radiotherapy had been preceded by surgery in 28 cases—13 Stage I with 9 survivors, 7 Stage II with 1 survivor and 8 Stage III and IV with no survivors (See Fig. 2). The preradiation procedure was conization or amputation in seven cases with four survivors, subtotal hysterectomy in six cases with three survivors, total hysterectomy in five cases with two survivors, cautery in seven cases with one survivor and surgery and radiation in three cases with no survivors.

This analysis suggests that the adverse influence of preirradiation surgery on the control of cancer seems related more to the stage of disease than to the type of surgery. The more advanced cases are most unfavorably modified by previous surgery, particularly by hysterectomy, because the heavier dosage of intrauterine radium required for their control is thereafter impossible and intolerable. The earlier cases amenable to control by lower dosage of radium are less adversely effected. Conventional post-operative external roentgen therapy, for all practical purposes, never cures carcinoma of the cervix or endometrium. Carcinoma postoperatively residual in the cervical, paracervical or vaginal tissues does offer a favorable chance of control by direct irradiation through the intracavitary or interstitial placement of radium and by transvaginal roentgen therapy. This is the region to which the radiotherapist should direct his therapeutic efforts following an inadequate surgical procedure or local recurrence. In our experience, recurrence following a radical total hysterectomy is usually in the peripheral pelvic nodes and nearly always uncontrollable by radiation therapy, particularly when associated with nerve plexus pain or edema of the thigh and leg. In general, any carcinoma of the cervix persistent or recurrent after surgery which is controllable by radiotherapy could have been controlled more assuredly and satisfactorily by initial radiotherapy alone.

The surgical treatment of carcinoma of the cervix is advantageous under certain limited, well defined conditions. The treatment of verified non-invasive carcinoma "in situ" by total hysterectomy together with removal of a vaginal cuff is generally accepted practice particularly in young women. Again we should emphasize that the histologic diagnosis of carcinoma "in situ" should be judiciously reviewed before subjecting the patient to any extensive therapy. Schmidt<sup>14</sup> emphasizes that clinical carcinoma of the cervix Stage I is better treated by radiotherapy than by hysterectomy. Patients with advanced carcinoma of the cervix



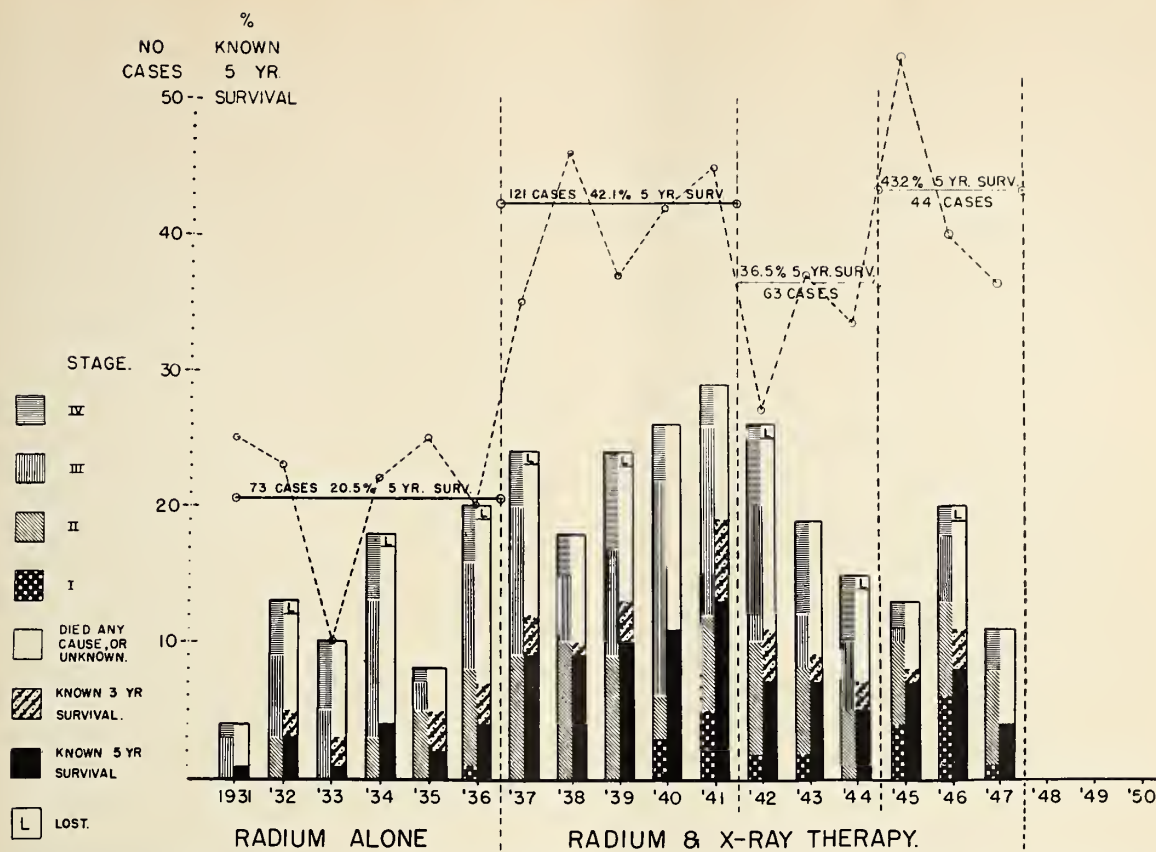


Fig. 2. Comparative five year survivals from radiotherapy in carcinoma of cervix uteri, unmodified and modified by previous surgery or previous radiation in state and private cases. (See tables 1-A,B,C)

infiltrating the bladder or rectum, but with disease confined to the pelvis, are suitable for partial or complete pelvic exenteration as advocated by Brunschwig<sup>2</sup> and by Schmitz.<sup>15</sup> In case the bladder is involved, ureters are transplanted into the colon, and in case the rectum is involved, a colostomy is done, permitting removal of the bladder and/or rectum along with the other pelvic organs. This is heroic surgery and carries a hospital mortality of about 25 per cent. Carcinoma residual or recurrent after radiotherapy warrants consideration of treatment by radical hysterectomy as advocated by Kettel.<sup>15</sup> In our experience patients with advanced disease in the lateral pelvic nodes associated with nerve plexus pain and edema of the thigh and leg have gained more relief from pelvic sympathectomy than cordotomy. Adenocarcinoma of the endocervix, accounting for 4 to 5 per cent of all cervical carcinoma, is considered somewhat more radioresistant than is the squamous cell variety, but in our opinion (Hepler<sup>16</sup>) it should be treated primarily by radiotherapy with or without postirradiation hysterectomy. Our experience in carcinoma of the endometrium (McGoogan and Hunt<sup>17</sup>), forces us to believe that carcinoma of the endometrium is best treated by a full course of fractionated intrauterine radium supplemented by external

roentgen therapy, followed, after eight to ten weeks, by a total hysterosalpingo-oophorectomy.

The initial course of radium and x-ray therapy must provide a cancerocidal dosage throughout the region of the cervix, vaginal vault and paracervical regions while avoiding hot spots of tissue injury, particularly in the region of the rectum and bladder. Radium must be applied along the length of the uterine canal and across the vaginal vault for optimal dosage to the paracervical tissues and pelvic nodes as well as to the sites of direct application. Since the total tolerance of every tissue for radiation is definitely limited, all radium and x-ray therapy must be skillfully applied and intelligently controlled. The second course of radiotherapy is rarely effective in controlling residual cancer, and the incidence of postirradiation complications, such as tissue necrosis, fistulae, ulceration of the bladder or bowel and ureteral stricture, are greatly increased. Local recurrence outside the site of previous therapy, such as along the vaginal wall, may at times be amendable to control by irradiation without danger of complications. Dissipation of the patient's tolerance for radiation by improperly applied or insufficient dosage squanders her chances of cure from cancer by radiation.

There were twenty cases in this series previous-

ly irradiated elsewhere of whom only one patient was living five years following our additional course of radiotherapy. Radical hysterectomy offers some prospect of control in cervical carcinoma, residual or recurrent following radiotherapy. Keetal<sup>15</sup> reports 20 per cent of fifteen such cases living two years or more following radical hysterectomy. In our series, four patients on whom postirradiation hysterectomy was done for questionable residual carcinoma all were surviving after five years, but two of the four patients showed no residual carcinoma in the resected tissues.

#### SUMMARY

1. The absolute five year survival rate with conventional radiotherapy in 318 cases of carcinoma of the cervix uteri, unmodified by prior surgery or radiation, was 48.1 per cent (state cases 43.1 per cent, private cases 57.9 per cent).

2. Twenty-eight cases modified by prior surgery showed an over-all five year survival of 35.7 per cent—Stage III and IV cases no survival (unmodified 17 per cent), Stage II cases 14 per cent survival (unmodified 45 per cent) and Stage I cases 69.2 per cent survival (unmodified 73.1 per cent). These figures demonstrate that surgery prior to irradiation becomes increasingly deleterious with the advance of the disease.

3. Twenty cases of carcinoma of the cervix modified by prior radiation therapy showed only one (5 per cent) five-year survival and with increased incidence of sequelae following reirradiation. Since reirradiation is ineffective and hazardous, the initial application must be optimal in concept, distribution and dosage.

4. Uterine cancer persistent or recurrent in the cervical stump, paracervical tissues or vaginal wall is accessible for and amenable to control by intracavitary or interstitial radium or transvaginal x-ray in some stage I and II L. N. cases. Recurrent postsurgical and postirradiation stage IV cases with nerve plexus pain and thigh edema have not benefited from radiation.

5. Any carcinoma of the cervix uteri persistent or recurrent after surgery, and controllable by radiotherapy could have been more assuredly and satisfactorily controlled by initial radiotherapy alone.

6. Surgery may serve the following limited roles in the management of carcinoma of the cervix uteri:

- (a) Unidentified cervical lesions—biopsy.
- (b) Verified "in situ carcinoma"—total hysterectomy with removal of vaginal cuff.
- (c) Carcinoma of the cervix invading bladder or rectum but confined to the pelvis—partial or complete pelvic exenteration.
- (d) Carcinoma residual or recurrent following near tolerance irradiation—radical hysterectomy.
- (e) Stage IV cases with nerve plexus pain and edema—pelvic sympathectomy (or cordotomy).

7. The preferred primary treatment for clinical carcinoma of the cervix is a program of irradiation combining roentgen rays and radium.

#### BIBLIOGRAPHY

1. Meigs, J. V.; Radical hysterectomy with bilateral pelvic lymph node dissections. A report of 100 patients operated on five or more years ago. *Am. J. Obst. and Gynec.*, **62**:854-870 (Oct.) 1951.
2. Brunschwig, Alexander; Partial and complete pelvic exenteration for advanced and recurrent cancer. *West Virginia M. J.*, **49**:21-22 (Jan.) 1953.
3. Doyle, J. C.; Unnecessary hysterectomies, study of 6248 operations in thirty-five hospitals during 1948. *J. Am. M. Assn.*, **151**:360-365 (Jan. 3) 1953.
4. Randall, J. H.; Mirick, D. F.; and Wieben, E. E.; Endometrial carcinoma. *Am. J. Obst. and Gynec.*, **61**:596-602 (March) 1951.
5. Scheffey, L. C.; The diagnosis and management of Uterine Malignancy. *West. J. Surg., Obst. and Gynec.*, **60**:4:144-155 (April) 1952.
6. Novak, E. R.; and Galvin, G. A.; Mistakes in interpretations of intraepithelial carcinoma. *Am. J. Obst. and Gynec.*, **62**:1079-1085 (Nov.) 1951.
7. Brown, W. E.; and Jernigan, G. C.; Carcinoma of the cervix in pregnancy. *Amer. Surgeon*, **17**:5:441-447 (May) 1951.
8. Nielsen J.; Praecancroser på portiohysterectomi eller observation? *Ugeskr. Laeger*, **113**:28:937-938 (July 12) 1951.
9. Erskine, A. W.; A study of distribution with seven major modifications of the transvaginal method. *Radiology*, **59**:546-554 (Oct.) 1952.
10. Kottmeier, H. L.; Studies of dosage distribution in pelvis in radium treatment of carcinoma of uterine cervix according to Stockholm method. *J. Fac. Radiologists*, **2**:312-319 (April) 1951.
11. Bonney, Victor; Wertheim's operation in retrospect. *J. Lancet*, **1**:637-639 (April) 1949.
12. Morton, D. G.; Pelvic lymphadenectomy in treatment of cervical cancer. *Am. J. Obst. & Gynec.*, **49**:19-31, (March) 1945.
13. Morris, J. M.; and Meigs, J. V.; Carcinoma of the cervix. *Surg., Gynec. and Obst.*, **90**:135-150 (Febr.) 1950.
14. Schmidt, R. T. F.; Panhysterectomy in the treatment of carcinoma of the uterine cervix. Evaluation of results. *J.A.M.A.*, **146**:1310-1312 (Aug. 4) 1951.
15. Keetal, W. C.; Brintnall, E. S.; and Randall, J. H.; Surgical treatment of recurrent carcinoma of the cervix. *J. Lancet*, **72**:6:283-285 (June) 1952.
16. Hepler, T. K.; Dockerty, M. B.; and Randall, L. M.; Primary adenocarcinoma of cervix. *Am. J. Obst. and Gynec.*, **63**:4:800-808 (April) 1952.
17. McGoogan, L. S.; and Hunt, H. B.; Treatment of carcinoma of the fundus uteri. *Arch. Surg.* **56**:172-177 (Febr.) 1948.

#### NEW PUBLIC RELATIONS MANUAL

A new A.M.A. publication, entitled "Rx PR," will be mailed to all physicians during October. The first half of the booklet is devoted to discussions of doctor-patient relationships. The second section takes up the business aspects of medical practice.

The public relations ideas, suggestions and techniques contained in the manual come from 50 PR-minded practitioners from all parts of the U. S. The introduction states that "every complaint of the public is a danger signal—a symptom of the public ill will, justified or unjustified, harbored against some physicians and some aspects of medical care."

The manual will also be made available to medical students, interns and residents.



## PUDENDAL BLOCK ANESTHESIA IN OBSTETRICS

J. ROBERT WILLSON, M.D.\*

AND

KENNETH L. COOPER, M.D.\*

PHILADELPHIA, PENNSYLVANIA

ALTHOUGH IT SHOULD BE unnecessary to defend the need for pain relief during delivery, the recent interest in "natural" childbirth has led some physicians to question the advisability of the use of ordinary anesthetic technics during the birth of the baby. Although it is true that all types of anesthesia are potentially hazardous, insistence upon a return to primitive preanesthetic methods, even in patients trained for such deliveries, might well nullify many of the advances in obstetric care made possible by modern anesthetic procedures. The value of properly performed and carefully repaired episiotomy for instance has been proved by the reduced incidence of pelvic relaxation in those women on whom the operation has been performed. To afford maximum protection to the muscular and fascial structures, the incision must be made before the tissue is damaged by overdistention, and it must be of sufficient depth. An adequate episiotomy cannot be performed without some form of anesthesia. The possibility of contamination and subsequent infection also are reduced if the patient lies quietly on the table during delivery because her pain has been relieved.

On the other hand, it is equally true that the woman who has been given sufficient sedation and anesthesia to make her completely oblivious of her entire labor and delivery not only misses an important and satisfying experience but is exposed to increased danger of dying from aspiration of vomitus or from some other anesthetic complication. Her infant may suffer damage as a result of respiratory depression or may be injured during an operative delivery made necessary by the inability of the patient to cooperate during the terminal stages of labor and delivery.

Somewhere between these two extremes must lie a satisfactory method for pain relief which, while it does not add the risk of deep anesthesia, controls the discomfort yet allows the patient to be one of the active participants in the birth of her infant. An obstetric anesthetic suitable for the usual delivery should relieve the pain sufficiently completely to permit the manipulations necessary for spontaneous or outlet forceps delivery without jeopardizing the life or health of the mother or her baby. It should permit the performance of an adequate perineal incision and its repair when necessary. And because it should be suitable for use at home or in the small hospital as well as in

larger institutions where more assistance is available, it must be easy to administer. None of the commonly used methods for providing pain relief satisfies all these requirements since most demand the constant attendance of skilled individuals for their administration and for observing the reaction of the patient continuously during the delivery and the immediate postanesthetic recovery period.

Inhalation agents are probably more commonly used to produce obstetric anesthesia in this country than are any of the other methods, but they have disadvantages which make them undesirable for some patients, and they are most safely administered by a trained anesthesiologist. Any form of inhalation anesthetic increases the number of narcotized infants particularly when the anesthetic is administered in amounts too large or over too long a period of time; the chances of survival for premature infants delivered under inhalation anesthesia are definitely lessened, no matter how skilled the individual who administers it. The incidence of postpartum hemorrhage may also be increased because deep inhalation anesthesia decreases the force of the uterine contractions necessary to control bleeding. Merrill and Hingston found that vomiting and aspiration of stomach contents was responsible for the deaths of 59 mothers and 8 infants in a collected series of 2,503,921 deliveries; they estimated that this factor alone accounts for 100 maternal deaths each year.

Spinal, saddle block and caudal anesthesia should only be used in hospitals in which an experienced individual can administer them and can then assume as his sole duty the responsibility for checking the fetal heart tones, the maternal blood pressure and pulse rate and the anesthetic level. High levels are easily obtained in patients during labor, and the death rates associated with obstetric spinal anesthesia are higher than with any of the other methods.

Because sodium pentothal rapidly transverses the placenta and narcotizes the baby, rapid delivery is important after the drug has been injected. Since the use of this substance necessitates delivery within a few minutes after its intravenous injection, haste is essential; therefore careless or traumatic deliveries are at times inevitable. Laryngospasm may also occur and be responsible for death of both the mother and her infant if a skillful anesthesiologist is not present to initiate corrective measures. Thus, intravenous anesthesia has only a limited value for obstetric delivery.

Local perineal nerve block provides adequate anesthesia for safe delivery of many patients without the dangers of either inhalation or spinal methods. It does not interfere with uterine contractions and has no depressant effect upon the baby. The patient remains awake and can therefore utilize her secondary powers. Since the technic requires no special equipment and no additional personnel, it is suitable for use in the hospital or at home. It provides sufficient pain relief

\*From the Department of Obstetrics and Gynecology, Temple University School of Medicine and the Temple University Hospital.

for spontaneous or low forceps delivery and even for some simple manual or forceps rotations. Episiotomy and its repair or the approximation of perineal lacerations can be accomplished without discomfort. Its main disadvantage is that the pain associated with uterine contractions is not relieved, since only the lower pelvic structures are anesthetized. Hence the procedure may not be suitable for the patient who requires more complete pain relief. The patient is apt to be more active and physicians who are unduly disturbed by motion of the patient often look upon perineal block anesthesia with disfavor, even though their patients may have experienced satisfactory results.

TABLE I  
OBSTETRIC ANESTHESIA—2909 PATIENTS  
TEMPLE UNIVERSITY HOSPITAL

Regional	
Saddle Block	46. %
Plus Inhalation	0.6
Pudendal Block	15.
Local Infiltration	0.6
Plus Inhalation	1.2
Epidural	0.6
General	32.
No Anesthesia	2.5

Between March 1, 1952, and April 1, 1953, on the Obstetric Division of the Department of Obstetrics and Gynecology of the Temple University Hospital, 2,909 women were delivered. The types of anesthesia administered to them are tabulated in Table I. Since 119 were delivered by cesarean section, 13.7 per cent of vaginal deliveries were performed with pudendal block alone or with pudendal block supplemented with small amounts of nitrous oxide and oxygen or trichlorethylene by inhalation. This does not represent the total number of patients in whom perineal nerve block might have been suitable for delivery, since only two or three physicians use the method with any degree of regularity in private patients. Almost 90 per cent of the blocks in this series were administered to ward patients whose deliveries made up slightly less than half of the total. The majority of those delivered with inhalation anesthesia alone were multiparae, and only enough was administered to relieve discomfort during the expulsion of the infant; a repair, when necessary, was often performed with local infiltration or perineal nerve block instituted after the completion of the delivery.

#### TECHNIC FOR PUDENDAL BLOCK ANESTHESIA

*Selection of patients.* Since the pain relief with pudendal block anesthesia is less complete than with other methods, a certain selection of patients is necessary if good results are to be expected. Nervous, excitable, overly active or frightened women react poorly to local methods and usually require more complete anesthesia.

The anesthetic method most suitable for the

patient can often be anticipated by her reaction during the prenatal period. The short labor and the more rapid second stage make the multipara a better candidate for pudendal block than the primigravida, but many of the latter can be satisfactorily delivered with local methods. Of the 383 patients reported here 77 were primigravidae and 306 were multiparae. Breech delivery is aided by local perineal anesthesia particularly if an episiotomy is necessary. If the nerves are blocked, an adequate perineal incision can be made without the use of inhalation anesthesia, and since the patient is awake, she can utilize her secondary powers to expel the breech from the vagina.

If intrauterine manipulation is required, as in breech extraction or version and extraction, pudendal block anesthesia is completely inadequate, sufficient inhalation anesthetic must be administered to relax the uterus and permit safe delivery. If a difficult forceps extraction is anticipated because of bony contraction of the lower pelvis, a mid-pelvic arrest or a large infant, pudendal block anesthesia provides neither sufficient pain relief nor relaxation for delivery.

*Predelivery medication.* Most primigravidae and many multiparae need some form of pain relief during labor, but if pudendal block anesthesia is planned for delivery, only morphine or demerol should be administered during labor. Scopolamine may make the patient irrational and thus decrease her ability to cooperate during the second stage. If labor is progressing rapidly or if delivery is expected to occur within an hour, ordinary medications may produce fetal depression and therefore are contraindicated. In such instances the inhalation of trichlorethylene with the hand inhaler during each contraction provides satisfactory relief from discomfort with minimal danger.

*Time and method of injection.* In the primigravida, if the block is administered at about the time the presenting part begins to flatten out the perineum, a minimum of difficulty will be experienced. If a large amount of caput is visible during contractions, there may be insufficient room to manipulate the needle accurately and failure is common. Because the second stage in the multipara is so rapid, the injection is made when the cervix has reached eight or nine centimeters dilatation, and after the block has been performed, intact membranes may be ruptured to aid delivery.

The anesthetic agent used in the patients reported here was 1 per cent Xylocaine without the addition of vasopressor drugs or hyaluronidase, ten cubic centimeters being deposited along the trunk of each pudendal nerve according to the technic described by Klink.

The medial aspect of the spine of the ischium is palpated vaginally with the tip of the index finger and the triangle formed by the sacrospinous ligament, the sacrotuberous ligament and the obturator internus muscle is identified. A number 20



spinal puncture needle at least five inches in length is inserted through the skin of the perineum one-third of the distance from the anus to the ischial tuberosity passing through the ischio-rectal fossa and over the anterior border of the gluteus maximus muscle. The needle tip is directed anterolaterally toward the ischial spine and the palpating finger. As the needle point approaches the inferior border of the ischial spine it is directed posterior to this structure by the finger tip; on slight further insertion the needle enters the pudendal canal and lies near the trunk of the pudendal nerve and its accompanying blood vessels. If the needle lies in the pudendal canal it can be pulled back and forth slightly without the sensation of resistance which is encountered if the tip is fixed in the obturator internus muscle or the sacrospinous ligament. With the needle in this position, the plunger of the syringe is withdrawn and the tip of the needle is slowly inserted a few millimeters further in an attempt to aspirate blood from the pudendal vessels, if this can be accomplished success is almost certain since the nerve lies immediately adjacent to the pudendal artery and vein. If blood is obtained the needle is withdrawn a few millimeters until it no longer flows and three cubic centimeters of the anesthetic agent are injected. The needle is then advanced about one centimeter further into the canal and after aspiration another three cubic centimeters of solution are deposited. The last four cubic centimeters are injected another one-half to one centimeter deeper at about the level of the superior posterior border of the ischial spine. Since this technic blocks the main trunk of the pudendal nerve, the branches of which supply the entire perineum within the borders of the ischial tuberosities and as far forward as the clitoris and the inferior hemorrhoidal nerve which supplies the skin around the anus, no further injections are necessary. The same procedure is repeated on the opposite side.

The onset of anesthesia is rapid, and shortly after the injection muscle relaxation and loss of sensation become obvious. Skin sensation should be checked by gently stroking the area with a needle point rather than roughly grasping it with a hemostat or plunging a needle into the tissue. If no anesthesia is obtained within three minutes, the block may be presumed to have failed. If the block fails completely, another attempt may be made to inject the nerve trunk. In the patients reported here the second injection was necessary on one side 63 times and bilaterally 23 times because of failure after the original attempt. In the event that partial but incomplete anesthesia is obtained local superficial infiltration of the unanesthetized areas ordinarily will provide sufficient relief from pain to complete the delivery.

*Supplemental anesthesia.* The introduction of the needle produces moderate discomfort and if the patient has had no sedation during her labor

she may be unable to remain quiet during the necessary manipulations. Many of the patients were given inhalations of trichlorethylene during the nerve block procedure to eliminate this discomfort. In others, particularly those delivered by forceps and some of those with incomplete blocks, trichlorethylene alone or combined with a small amount of nitrous oxide, and oxygen was continued during the extraction. The amount of gas was ordinarily not enough to produce loss of consciousness and its administration was discontinued at the end of the second stage, the placental delivery and the repair being performed with the pudendal block alone.

TABLE II  
PUDENDAL BLOCK ANESTHESIA  
SUPPLEMENTAL METHODS

Type of Delivery	Pudendal Block Alone %	Pudendal Block Plus Inhalation %
Spontaneous	64	36
Outlet Forceps		
Low Forceps	57	43
Midforceps	0	100
Breech	44	56
Multiple Pregnancy	67	33

*Failures.* At the completion of each delivery the anesthetized area is outlined by pinpricks and sketched on the delivery record with the operator's evaluation of the effectiveness of the anesthesia. Those estimated to be *completely effective* include all pudendal nerve blocks which in themselves provide sufficient pain relief for delivery and the indicated repair, and in addition those in which the skin area supplied by the branches of the pudendal nerve are insensitive to stimulation even though an inhalation agent was used during the second stage. In most of the latter, manipulations, such as those necessary for rotation of the head or for extraction of the arms in a breech, produced discomfort in the deep pelvic muscles and in the structures in the upper pelvis not supplied by the perineal nerve. In those classified as *good*, the hemorrhoidal branch remains sensitive to pain, or deep visceral discomfort is present during normal delivery. In most of these, additional local infiltration will complete the block and provide satisfactory anesthesia for the procedure. If complete unilateral or partial bilateral failure follows the injection, the result is described as *fair*, and all with less anesthesia than this are considered to have failed.

The obvious reason for unsuccessful nerve block is the failure to deposit the anesthetic solution around the nerve trunk and is usually the result of one of two errors in technic. If the tip of the needle does not penetrate the pudendal canal, the material may be injected directly into the sacrospinous ligament or the obturator internus muscle

at some distance from the nerve trunk and its branches. Should the needle penetrate these structures, resistance can be sensed and a wheal will usually be felt to develop during the injection. A most important cause of failure to enter the canal is the use of a needle which is too short. A needle at least 5 inches in length is necessary, and if the patient is obese, one even longer must be used.

The second major error consists of pointing the needle too far posteriorly, so that even though it passes through the triangle beneath the ischial spine, it may not approach the pudendal nerve trunk. Blood may be aspirated from the gluteal vessels, suggesting that the needle is properly placed, but an injection in this area blocks the trunk of the posterior femoral cutaneous nerve and occasionally that of the inferior hemorrhoidal and anesthetizes only the inner aspect of the thigh and the skin around the anus. Such failures can be corrected by angling the needle slightly more anteriorly and laterally during its insertion.

If the inferior hemorrhoidal nerve arises high or pursues an unusual course, it may not be included in an otherwise adequate block. It is to prevent such failures that the third injection above the superior border of the spine is made. If this branch is not included, local infiltration will complete the anesthesia.

A clear understanding of the anatomical relationships of the pudendal nerve and practice are necessary for successful use of the block. To illustrate the effect of experience, it can be pointed out that the 32 individuals who performed the nerve blocks in this series were divided into two groups: those who had performed less than ten and those who had had more opportunity to become familiar with the technic. The incidence of failure and the need for supplemental anesthesia were far greater in the former individuals. Completely adequate anesthesia was obtained in 87 per cent and in 91 per cent of the blocks administered by the two operators who had performed the greatest number.

#### SUMMARY

Pudendal nerve block, while by no means a universally applicable obstetric anesthetic method, is safe for both mother and baby and is adequate for many deliveries. It is of greatest usefulness in the spontaneous delivery of multiparae, particularly those in whom episiotomy and its repair are necessary, although it may also be successfully performed in primigravidae. Among the factors which increase its success are the emotional status of the patient, predelivery sedation, the type of delivery and the experience of the operator. In certain deliveries which require more than the usual manipulation for their completion, pudendal block, supplemented by inhalation of trichlorethylene during the second stage, provides a satisfactory and safe method for relieving pain.

Perineal nerve block is of particular value in

deliveries at home or in a hospital in which the services of a capable anesthesiologist are not available and in deliveries for which regional anesthesia is indicated but when other methods are unavailable or contraindicated. The technic can be learned by most physicians who are willing to familiarize themselves with the details of pelvic anatomy and to accept the failures which are certain to occur in the beginning but which will become less frequent with increasing experience.

#### BIBLIOGRAPHY

Merrill, R. B. and Hingston, R. A.: Study of incidence of maternal mortality from aspiration of vomitus during anesthesia occurring in major obstetric hospitals in the United States. *Anesth. and Analg.* 30:121-35, (May-June) 1951. Correction 30:239 (July-Aug.) 1951.

Klink, Edward W.: Perineal Nerve Block. An anatomic and clinical study in the female. *Obstetrics and Gynecology.* 1:137-146 (February) 1953.

### PITFALLS IN ELECTROCARDIOGRAPHY

DONALD J. WAGNER, M.D.

SIoux CITY

THE ELECTROCARDIOGRAPH, in this present era of laboratory diagnosis, has become a popular instrument used extensively by general practitioner and specialist in the everyday practice of medicine. Since 1903 when Einthoven designed the string galvanometer, the electrocardiograph has been improved and simplified and gradually has become highly esteemed in the diagnosis of cardiac disease.<sup>1</sup> A heart examination no longer is considered complete without an electrocardiogram. This instrument has contributed immensely to our understanding of the normal and abnormal heart, and over the years has produced an enormous amount of factual data which has helped put cardiology on a relatively firm footing. During the past decade or more, there have been numerous changes in electrocardiographic technic. New fundamental studies employing more intricate bipolar and unipolar leads have provided a convincing and remarkable advance in electrocardiology.

The electrocardiograph has become one of the mainstays in today's enthusiastic scientific approach to the problems of cardiac disease. But, it is becoming more apparent in medical centers that this advancement in laboratory measurement has to a great extent been made at the expense of the art of clinical medicine. Unfortunately, there has developed the popular belief that the electrocardiogram is the final authority in heart evaluation—that it always provides the right answer. Cardiac authorities have repeatedly emphasized that such invincibility is not the case. Medical common sense, abetted by the newer techniques, has demonstrated conclusively that the electrocardiogram is no more than a laboratory test and as such must be correlated with clinical data of equal or greater importance. White, by the way, ranks the electrocardiogram third in im-



portance in cardiac examination, placing it behind history taking and physical examination.<sup>2</sup>

Cardiologists also have been concerned with the increase in iatrogenic heart disease, which is disease produced by the physician in suggestible patients. Too many physicians, misled by different physical or laboratory findings, have erroneously diagnosed heart disease. All too often this has led to cardiac neurosis, with resultant psychologic and economic disability. Weinberg writes that iatrogenic heart disease "produces considerable morbidity and may easily be more disabling than the average case of organic heart disease."<sup>3</sup> Oille reports that sixty per cent of the patients consulting a cardiac specialist do so because of heart anxiety produced by careless or ill-considered remarks of doctors.<sup>4</sup> According to Kilgore, thousands of American soldiers who did not have heart disease were given disability ratings with mistaken cardiac diagnoses.<sup>5</sup> Recently, Goldwater and associates reported on 631 cardiacs referred to a heart clinic. After careful study, they found that 175, or about 28 per cent, had no heart disease at all.<sup>6</sup>

Undoubtedly, one of the reasons for the increase in iatrogenic heart disease is the increasing popularity and indiscriminate use of the electrocardiograph. It has become profitable office equipment and increasingly is being used and interpreted by those insufficiently grounded in electrocardiography. It is the tendency of the inexperienced electrocardiographer to read far more abnormality into the electrocardiogram than is actually warranted. A plea for "sanity" in electrocardiographic interpretation has been made by Rosenbaum, who warns that the limitations of electrocardiography "have been emphasized too little."<sup>7</sup>

The purpose of this paper is not to belittle the electrocardiogram, but to recall that it has its shortcomings like any other good laboratory procedure. Electrocardiographic findings must be evaluated in terms of the patient. Any physician who utilizes the electrocardiograph should be aware of certain pitfalls and should remember one well-established observation—that normal hearts may record an abnormal electrocardiogram and abnormal hearts may produce a normal electrocardiogram.

#### ELECTROCARDIOGRAPHIC PITFALLS

Electrocardiographic pitfalls are numerous and difficult to classify; many lead to the false suggestion of heart disease while others amount to inability to provide reliable information about the heart. These limitations probably can best be grouped into seven categories. The first three concern limitations which might cause erroneous diagnosis of heart disease. They include improper recording of electrocardiograms, the effect of non-cardiac conditions on the electrocardiogram, and certain electrocardiographic irregularities which can be normal. The remaining four categories con-

cern failure to provide a true picture of heart status; these deal with inability to disclose heart disease, the limited value of the electrocardiograph in heart treatment, its shortcomings in etiologic cardiac diagnosis, and dependence on outmoded equipment.

These categories are as follows:

1. *An electrocardiogram can be improperly recorded, and, if this fact is not recognized, it may lead to an incorrect interpretation of myocardial disease.* Technicians often get lead wires interchanged and thus mistakenly produce patterns that suggest infarction; standardization may be incorrect and record abnormal voltage and T waves. Artefacts, caused by loose electrodes, somatic tremor and AC interference may be misleading. T wave and other irregularities can occur if a tracing is taken with the patient in a sitting rather than in the customary supine position.

2. *An electrocardiogram can be abnormal, and suggest myocardial disease, because of non-cardiac influences.* Drugs, particularly digitalis, are the worst offenders; digitalis can produce all sorts of conduction, rhythm, segment, and T wave irregularities, and its effect may persist for as long as a month after the drug has been discontinued. Quinidine, nitrites, cholinergic drugs, and adrenergic preparations such as ephedrine or epinephrine, may affect the electrocardiogram, particularly the T waves. More and more it is being appreciated that metabolic or electrolyte disturbances, fevers or infections may distort what otherwise would have been a normal tracing. T waves and segments also can be altered by heavy meals, excessive smoking, emotional upsets, exercise, or practically any vagal or sympathetic stimulation.

3. *So-called electrocardiographic "irregularities" may appear in normal hearts.* Electrocardiography is still a young science. Time, observation and newer technics have demonstrated that certain variations from the presumed normal pattern can be produced by normal hearts. For example, while segment changes, particularly elevations, at one time always were considered abnormal, it is now recognized they can be normal. Q waves in lead three once were held pathognomonic of a posterior infarction. Frequently, this is not the case at all. At one time, T wave inversions in the precordial V leads to the right of the interventricular septum were frowned upon, but now it is realized they usually are no more than a residual of the juvenile electrocardiographic pattern. Likewise, certain conduction defects such as first degree heart block, A-V dissociation, intraventricular block, bundle branch block, and prolonged Q-T interval are not by themselves absolute evidence of heart disease; the same can be said for slurring of complexes, axis deviation, and certain arrhythmias. At one time, for example, left bundle branch block was considered to carry an un-

usually bad prognosis, but now it is appreciated patients with such an electrocardiographic defect may live for several years without cardiac symptoms.

4. *An electrocardiogram may not disclose cardiac disease or even impending catastrophe.* Frequently, there is a delay, even up to two weeks, until a pattern of infarction develops; likewise, tracings can be normal in angina pectoris or even shortly before a fatal infarction. Also, the electrocardiogram does not measure cardiac reserve, and the heart in congestive failure may offer a normal record. Residuals of old infarctions may not be demonstrated, and it is possible for the pattern of a fresh infarction to be minimized or erased by the scar of an old infarction on the opposite heart surface. A left bundle branch block also makes it difficult or impossible to demonstrate a fresh infarction; and at times patterns caused by old ventricular aneurysms can be confusing.

5. *The electrocardiogram is of limited value during the treatment of infarctions.* Once the diagnosis has been established by one or more tracings, additional records will be of little value in determining how long the patient should be immobilized or kept on certain medications because infarction patterns persist for variable and unpredictable periods. Of course, the electrocardiogram can help determine whether a major infarction or a minor thrombosis is present and to this extent provide information of value in treatment.

6. *The electrocardiogram, except for certain infarctions and arrhythmias, is incapable of etiologic cardiac diagnosis.* Tracings may suggest, but can not by themselves, diagnose hypertensive, arteriosclerotic, rheumatic, syphilitic, or other types of heart disease. Similarly, the electrocardiogram, particularly one record, does not differentiate myocarditis or pericarditis due to underlying chronic heart disease from that due to some temporary and less serious disturbance.

7. *Finally, another possible pitfall is dependence on outmoded equipment and antiquated methods.* Certain infarctions will be missed if only the old four-lead electrocardiogram is used. Much more informative and accurate is the now conventional tracing with the three-limb leads, three augmented unipolar extremity leads, and the six unipolar V or bipolar precordial leads. At present, the V precordial leads are more popular, but the bipolar precordial leads have their supporters.

Incidentally, there undoubtedly are other pitfalls since the significance of some electrocardiographic changes is obscure. Time will provide the answer, and it is hoped that the ballistocardiogram, infant brother of the electrocardiogram, will help solve some problems.

#### COMMENT

Now that these electrocardiographic limitations

have been enumerated, one might get the impression that the author considers electrocardiography to be in a somewhat confused and uncertain state; the situation is anything but that. The electrocardiograph is vital to cardiology and is invaluable in detecting coronary thrombosis, infarction, pericarditis, arrhythmias, electrolyte and numerous other abnormalities. The value of the instrument is well established, and in the cardiac literature of the past decade there are many impressive reports of its contributions. One of the more recent is an appraisal of the "newer electrocardiography" by Levine and Phillips.<sup>8</sup> Correlating electrocardiographic and pathological findings in 150 consecutive cases, they found the electrocardiographic diagnosis of acute myocardial infarction invariably was correct, and that in no case of acute or old myocardial infarction was there a normal electrocardiogram. However, of all acute infarctions found at autopsy, according to this report, only 75 per cent had been detected by the electrocardiogram, although in some cases only one tracing had been taken and serial records might have made the correct diagnosis possible.

Cardiologists generally agree that the electrocardiogram seldom will be misleading if its innate inadequacies constantly are kept in mind. Actually, these electrocardiographic limitations need not be pitfalls at all. For instance, it is not difficult to recognize an improperly recorded tracing since a glance at the three unipolar extremity leads or the three standard limb leads will indicate whether the lead cables have been placed incorrectly on the extremities. Likewise, the detection of incorrect standardization or various artefacts requires no specific ability. Before attributing abnormalities in the electrocardiogram to the heart, the clinician first must question the possible role of other factors. T wave and segment alterations could be the first electrocardiographic evidence of a thrombosis or infarction, but they also may be due to other myocardial disease, paroxysmal tachycardia, drugs, exercise, electrolyte or other metabolic disturbance. Clinical correlation or additional observation generally will provide the correct answer. In addition, electrocardiographic "irregularities" which may be normal need be no stumbling block; certain conduction or segment changes can be ignored or minimized if history, examination, and other tests indicate no heart disturbance. For example, segment elevations could mean pericarditis or infarction, but most likely would be normal if they persisted in repeated tracings and there was no other clinical evidence of heart abnormality.

Most physicians now are aware that the electrocardiogram may be normal in the presence of coronary disease. Just because the initial electrocardiogram is normal, the alert clinician will not dismiss a diagnosis of coronary thrombosis if history and examination indicate this possibility; however, the diagnosis can be questioned if serial



electrocardiograms remain normal over a two week period. Very few thromboses will escape electrocardiograms remain normal over a two-employing the standard twelve leads, are taken. Occasionally, a small infarct high on the left ventricle will be missed, but frequently these can be diagnosed if the exploring electrode is moved up and laterally over the precordium. By the same token, obscure posterior thromboses on occasion can be found if one explores posteriorly. Prior old infarctions may leave residuals complicating the electrocardiographic diagnosis of a fresh infarction, but usually changes will appear in repeated tracings and confirm the clinical impression. The electrocardiogram may even aid in disclosing "silent" coronary disease. As was mentioned, the electrocardiogram frequently is normal in coronary sclerosis, but it can be utilized to reveal coronary disease where history, examination, and roentgen studies fail to do so. The two-step exercise test devised by Master oftentimes will demonstrate otherwise hidden coronary disease.<sup>9</sup> This test, which exercises a patient according to age, weight and sex, is indicated only if the resting electrocardiogram is normal.

Many of the other electrocardiographic limitations which were mentioned offer no serious clinical handicap. Most physicians place little dependence on the electrocardiogram in the treatment of the acute infarction. Clinical findings from day to day are the main guides to treatment, although the electrocardiogram usually will be of great value in evaluating a complicating arrhythmia. Likewise, in the diagnosis of heart failure or in classifying the different types of heart disease, history and examination usually provide the answer, and the electrocardiogram is merely an adjunct. Those physicians who depend on outmoded electrocardiographic methods should be well aware of their handicap; the old standard four leads will miss some infarctions and will not provide as much information about the heart as the twelve-lead electrocardiogram.

One of the widespread errors in electrocardiography today is the tendency to diagnose "coronary strain," coronary sclerosis, or myocardial disease solely on the basis of abnormal T waves. Misinterpretation of T wave changes probably has led to more mistaken diagnoses of cardiac disease than any other electrocardiographic abnormality. Low or inverted T waves in certain leads generally mean myocardial disease, but, as has been discussed, they can reflect non-cardiac conditions. There actually are instances, although rare, where an inverted T in lead one is normal; this may be found in unusually placed hearts, either vertical or horizontal, but also the T in aVL must be deeper than the T in aVR.<sup>10</sup>

As a rule, the electrocardiographer should avoid making cardiac diagnoses, although he may de-

scribe certain electrocardiographic patterns as being consistent with infarction, pericarditis, left ventricular enlargement, and so forth. Abnormalities that fit no definite electrocardiographic pattern should be reported merely as abnormalities and the interpretation should be made by the clinician in terms of the entire clinical picture. Incidentally, for more accurate interpretation, the electrocardiographer should be provided with any previous electrocardiograms and such information as the patient's age, blood pressure, and drugs he recently has received. Previous tracings are of particular value since serial changes in electrocardiographic patterns reliably indicate some sort of cardiac disturbance.

#### SUMMARY

In this presentation, an attempt has been made to evaluate some of the limitations of the electrocardiogram. The contributions of this worthwhile laboratory aid have been mentioned, but particular stress has been given to its shortcomings. The electrocardiogram is not a final authority in cardiac diagnosis, but merely an important adjunct. Misconceptions about a patient's heart can be avoided if the clinician is cognizant of the instrument's limitations and will carefully correlate its findings with the history and physical examination.

#### BIBLIOGRAPHY

1. Einthoven, W.: Ein neues Galvanometer, *Ann. d. Phys. u. Chem.* 12:1059, 1903.
2. White, P. D.: *Heart Disease*, New York, The Macmillan Co., 1951, p. 179.
3. Weinberg, H. B.: *Iatrogenic Heart Disease*, *Ann. Int. Med.* 38:9-21 (Jan.) 1953.
4. Oille, J. A.: *Cardiac Neurosis*, *Canad. M.A.J.* 45:1-7 (July) 1941.
5. Kilgore, E. S.: *Symposium on Medical Preparedness: Heart in Military Service*, *J.A.M.A.* 117:258-60 (July 26) 1941.
6. Goldwater, L. J., Bronstein, L. H., and Kresky, B.: *Study of One Hundred Seventy-five "Cardiacs" Without Heart Disease*, *J.A.M.A.* 148:89-92 (Jan. 12) 1952.
7. Rosenbaum, F. F.: *The Place of the Electrocardiogram in Cardiac Diagnosis*, *Ann. Int. Med.* 35:542-54 (Sept.) 1951.
8. Levine, H. D., and Phillips, E.: *An Appraisal of the Newer Electrocardiography: Correlations in One Hundred and Fifty Consecutive Autopsied Cases*, *New England J. Med.* 245:833-42 (Nov. 29) 1951.
9. Master, A. M., and Oppenheimer, E. T.: *Simple Exercise Tolerance Test for Circulatory Efficiency With Standard Tables for Normal Individuals*, *Am. J. M. Sc.* 177:223-43, (Feb.) 1929. Master, A. M., Friedman, R., and Dack, S.: *The Electrocardiogram After Standard Exercise as a Functional Test of the Heart*, *Am. Heart J.* 24:777-793 (Dec.) 1942.
10. Goldberger, E.: *Unipolar Lead Electrocardiography*, Philadelphia, Lea and Febiger, 1949, 2nd ed., p. 125. White, P. D.: *Heart Disease*, New York, The Macmillan Co., 1951, p. 217.

#### REGIONAL A. C. P. MEETING

The Midwest Regional Meeting of the American College of Physicians is to be held on November 21, at the Hotel Schroeder, in Milwaukee, Wisconsin. The program is to include 22 papers, each fifteen minutes in length, and a clinico-pathologic conference, in addition to luncheon and dinner meetings. All physicians, whether they are members or not, are welcome to attend, and there is no registration fee. A luncheon and entertainment for the doctors' wives is on the schedule.

## PROBLEMS POSED BY THE NEWBORN INFANT OF A DIABETIC MOTHER\*

ROBERT D. GAUCHAT, M.D.\*\*  
IOWA CITY, IOWA

THE PURPOSE OF THIS paper is to consider, from the pediatrics viewpoint, the major problems posed by the newborn infant of a diabetic mother. An extensive review of current concepts of the physiologic and biochemical dysfunctions which surround the pregnant diabetic mother and her offspring permits the development of a hypothesis concerning the pathogenesis of the infant's symptoms and signs. On this basis, a definite plan for the acquisition of data which may serve to improve the therapy of these infants has been formulated.

Prior to the introduction of insulin (1921), diabetes mellitus was not a serious problem for the obstetrician, nor for the pediatrician interested in problems of the newborn infant, since diabetic females rarely became pregnant, and such rare pregnancies even more rarely yielded viable infants. Constantly improving techniques of diabetic management have changed this picture radically. Hall and Tillman report<sup>12</sup> that diabetes has been found in 1 out of every 480 pregnancies at Sloane Hospital, New York, since the advent of insulin therapy. The most recently available statistics indicate that pregnancy occurs in some two thousand diabetic patients every year in the United States.<sup>27</sup> The bibliography of this paper will indicate the increasing interest, over the past 20 years, shown by specialists in many branches of medical science in the problems posed by the pregnant diabetic and her offspring.

Interest in this problem was aroused by observation of several such infants in the newborn nursery of the State University of Iowa Hospitals. Here, despite the use of currently accepted technics of newborn care, a significant number of the newborn infants from diabetic mothers are dying within the first 24-48 hours of life. The case report which follows will illustrate some of the problems faced by these infants.

### CASE REPORT

Baby C. (Hosp. No. 52-11126) was born on September 29, 1952, at the State University of Iowa Hospitals. The mother was 22 years old, white, and known to have had diabetes fairly well controlled since the age of 3 years. One previous pregnancy, in 1951, yielded a viable male infant, delivered by cesarean section, whose birth weight was 3600 grams; this infant died of "heart trouble" 36 hours postpartum. The estimated date of confinement for her second pregnancy was October 17, 1952. Because of increasing difficulties in maintaining diabetic control during

the last trimester, and also because of the development of severe polyhydramnios, the infant was delivered by cesarean section during the 36-37th week of pregnancy.

At the time of birth, the infant weighed 1755 grams, appeared grossly edematous, and was moderately cyanotic for the first 5 minutes. Aspiration of the stomach yielded 2 or 3 cc. of yellow, viscid fluid. The infant's color improved with oxygen therapy, and he had a fair cry. He received continuous oxygen therapy in an isolette, and was given prophylactic penicillin and hykinone intramuscularly.

On the day following delivery, his condition seemed slightly improved. He was moderately active, respirations were not labored, and color was fair in the isolette, though there was still some mottling of the extremities. He had voided. That evening, his respirations became much more labored, the infant became increasingly cyanotic, and died, 20 hours postpartum. He had had no feedings prior to death.

Permission for post-mortem examination was obtained. At autopsy (Path. No. A-52-334), the lungs were almost completely atelectatic, except for isolated, dilated alveoli, most of which were lined by a thick, eosinophilic, fibrinoid membrane. There was generalized edema, most strikingly evident in the heart, lungs, liver, and adrenals. The left kidney and left ureter were absent. The right kidney microscopically appeared immature. The right ureter was dilated to approximately twice normal size. The liver and other organs contained hematopoietic cells whose distribution and number suggested a relatively immature stage of development.

The tips of the cerebellum and the paraventricular portion of the right hemisphere were necrotic. There was severe vascular congestion and some recent hemorrhage of the brain with no evidence of specific infection. Cultures were negative. The appearance of these lesions suggested a duration of at least two days.

The pancreas, grossly, was of normal size, shape, and of finely lobular consistency. The ducts were not dilated, and the parenchyma was of the normal pink-gray color. The acinar components and ducts appeared normal microscopically, whereas the islets seemed enlarged and appeared to be increased in number relatively and absolutely. The cellular detail of the islet cells was somewhat lost by autolysis.

The adrenals were normal in size, color, and thickness. Microscopic sections of these glands showed fetal-type architecture. The cells of the central portion of the adrenal cortex were quite large, and had abundant, vacuolated cytoplasm. In many the cytoplasm was confined to the central two-thirds of the cell leaving a peripheral empty space between cytoplasm and cell border.

Sections of the anterior lobe of the pituitary gland were considered normal.

\* First Prize, Pediatrics Essay Contest.

\*\* Resident, Department of Pediatrics State University of Iowa Hospitals.



IMPORTANCE OF THE PROBLEM: STATISTICS

Statistically, diabetes is a serious threat both to the mother and to her potential offspring. Pregnancy is notorious as a time of great difficulty in sustaining good diabetic control. Furthermore, even in cases where excellent levels of diabetic control can be maintained throughout pregnancy, the incidence of various complications of pregnancy is significantly higher in diabetic women than in the normal pregnant population. A representative series of well-controlled pregnant diabetic women is presented by Priscilla White,<sup>37</sup> who reports the following incidence of obstetrical complications in a series of 439 diabetic pregnancies:

COMPLICATIONS IN DIABETIC PREGNANCIES

Eclampsia	4 cases	(1%)
Pre-eclampsia	76 cases	(17%)
Hypertension alone	80 cases	(18%)
Albuminuria alone	34 cases	(8%)
(Total 44% of cases)		
Placenta previa	1 case	(0.2%)
Premature rupture membranes	4 cases	(1%)
Diabetic crises	8 cases	(2%)
Severe hypoglycemia	4 cases	(1%)

For the fetus-in-utero and the newborn infant from a diabetic mother, maternal diabetes is even more threatening than it is for the mother. The neonatal mortality rates of infants born to diabetic mothers vary from 60-70 per cent when prenatal care of mother and postnatal care of the infants is inadequate, and is still 12-20 per cent when both mother and infant receive the best care now available.<sup>8, 11, 12, 23, 26, 37</sup> The combined fetal and neonatal mortality rate for pregnancies complicated by diabetes is about 5 times higher than in non-diabetic pregnancies.<sup>20</sup>

The problem has acquired even broader scope from the observations of Miller and co-workers<sup>20</sup>

that the fetal and neonatal mortality is as high during the five years immediately preceding the onset of maternal diabetic signs and symptoms as after the syndrome has become clinically apparent in the mother. An increased fetal and neonatal mortality can be observed from 15 to 20 years before the clinical symptoms and signs of diabetes can be recognized. Furthermore, infants with a birth weight of 5 kg. or more are born to women before they become diabetic with the same high frequency as after diabetic symptoms have appeared.<sup>8, 20</sup> The incidence of infants whose birth weight is 5 kg. or more is about 80 times higher in pregnancies complicated by diabetes than in non-diabetic pregnancies.

The findings suggest that one must look, for at least a partial explanation of the problems involved, to an evaluation of metabolic alterations in the prediabetic female. Theories concerning such alterations form a major portion of this paper.

THE PREDIABETIC AND DIABETIC MOTHER:  
ENDOCRINE FACTORS

The endocrine control of carbohydrate metabolism is a complex and as yet incompletely understood maze of balances and counterbalances. Figure 1 presents a much-simplified schema of some of these balances, and will be adequate for the present discussion. Major endocrine products derived from the anterior pituitary, adrenal, and pancreatic glands are shown to contribute directly to the maintenance of a normal level of blood glucose. A brief review of the recent literature concerning concepts of the interaction of endocrine secretions from these various glands under normal conditions will provide a suitable foundation for further specific considerations relating to the problem under discussion.

Hexokinase catalyzes the first step in the metab-

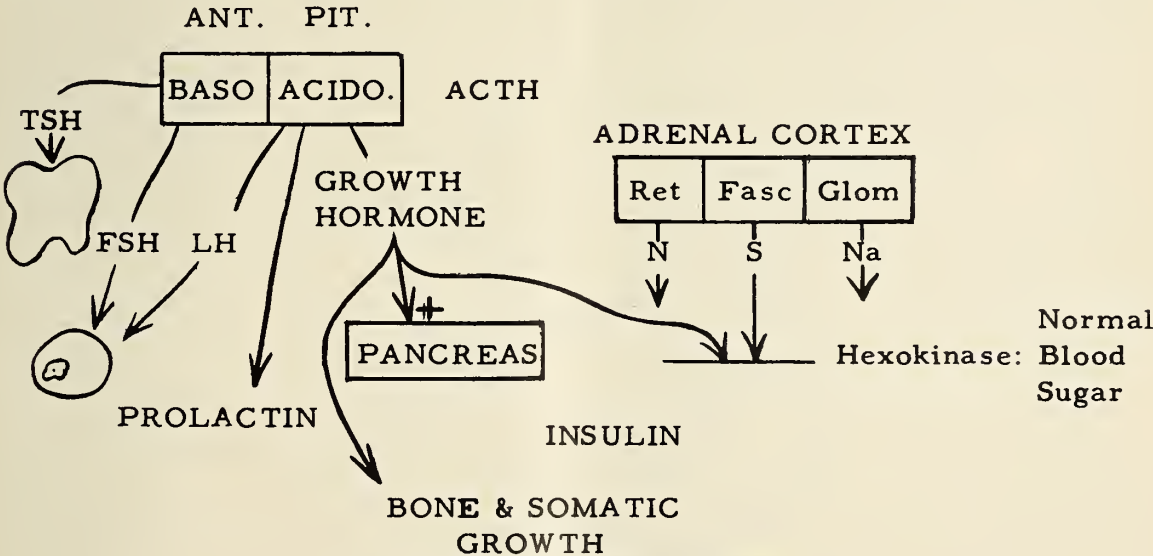


Fig. 1. Normal adult female, non-pregnant.

olism of glucose, by which glucose is transphosphorylated into glucose-6-phosphate by adenylyl triphosphate. The latter is a necessary intermediary for either glycogen formation or ultimate glucose degradation. Hence, impairment in hexokinase activity at once limits the availability of glucose as an energy source for cellular metabolism, and prevents its deposition as glycogen, both characteristic of the diabetic state. Recent studies<sup>33</sup> indicate that the two most likely actions of *insulin* are: (1) catalyzing the hexokinase system (or perhaps antagonizing anti-hexokinase hormones of adrenal origin), and (2) inhibiting the phosphatase system (which breaks down glucose-6-phosphate to glucose).

The *anterior pituitary hormone* which appears to be directly involved in carbohydrate metabolism is the *growth hormone*,<sup>5, 17, 33, 40</sup> or possibly some other anterior pituitary product, closely related to the growth hormone.<sup>25</sup> Injection of growth hormone into fed animals not only brings about marked retention of nitrogen (protein synthesis?), but, if continued, is followed by evidence of an inhibition of carbohydrate utilization.<sup>17</sup> To date, it has been found that growth hormone: (a) depresses the respiratory quotient of fasted hypophysectomized or fed normal rats, (b) prevents the severe loss of muscle glycogen observed when hypophysectomized rats are fasted, and (c) depresses the glucose uptake of the isolated diaphragm. In addition, when given to partially pancreatectomized rats or to animals made diabetic with alloxan, it causes a marked exacerbation of the diabetes. Finally, the diabetogenic potentialities of this hormone have been amply shown by many workers, who have demonstrated that the injection of 10-20 mg. of this hormone will produce permanent diabetes in dogs and cats.<sup>17</sup> The pituitary antagonizes the action of insulin directly, as well as through the adrenal cortex. Administration of certain anterior pituitary extracts

causes hypertrophy of the islets of Langerhans, with an increased islet content of insulin and hypoglycemia.<sup>40</sup> Bornstein and his co-workers<sup>5</sup> also suggest that pituitary growth hormones may stimulate the pancreatic islets to secrete a hyperglycemic substance, antagonistic to insulin.

The *carbohydrate-regulating adrenal steroids* appear capable, in vitro, of augmenting the effect of the anterior pituitary upon the hexokinase system. The adrenal hormones have three major actions: (1) they increase gluconeogenesis, (2) they increase protein and fat utilization, and (3) they augment the effect of anterior pituitary anti-hexokinase activity.<sup>33</sup> The 11-oxy-corticosteroids depress utilization of carbohydrate, and if treatment is continued, cause a temporary diabetic state that is characterized by a marked resistance to the action of insulin.<sup>17</sup>

Using these concepts of the roles of the pancreas, pituitary, and adrenal glands in the maintenance of normal carbohydrate metabolic balance, let us consider the changes which may be postulated to occur in the endocrine balance of the prediabetic or diabetic female, prior to pregnancy (Figure 2). Even before the onset of the classical symptoms and signs of diabetes, one may assume that certain hormonal alterations occur, for the morbidity and mortality rates of infants born to prediabetic mothers support this hypothesis. Let us assume that the first endocrine alteration is an increased production of growth hormone by the acidophilic cells of the anterior pituitary. Three changes can be expected to occur following this excess production of growth hormone: (1) increased somatic growth, (2) hypertrophy and hyperactivity of the pancreatic islets, leading to increased insulin production, and (3) increased direct anti-hexokinase activity by the growth hormone. In the following observations, there is evidence to support this hypothesis. The prediabetic excess of height and weight in some chil-

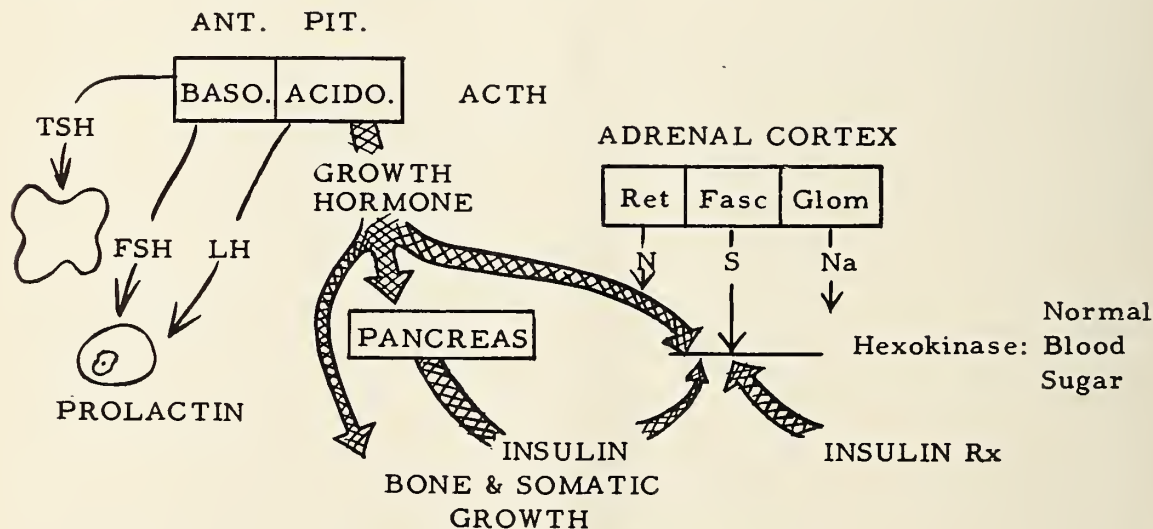


Fig. 2. Prediabetic and diabetic adult female.



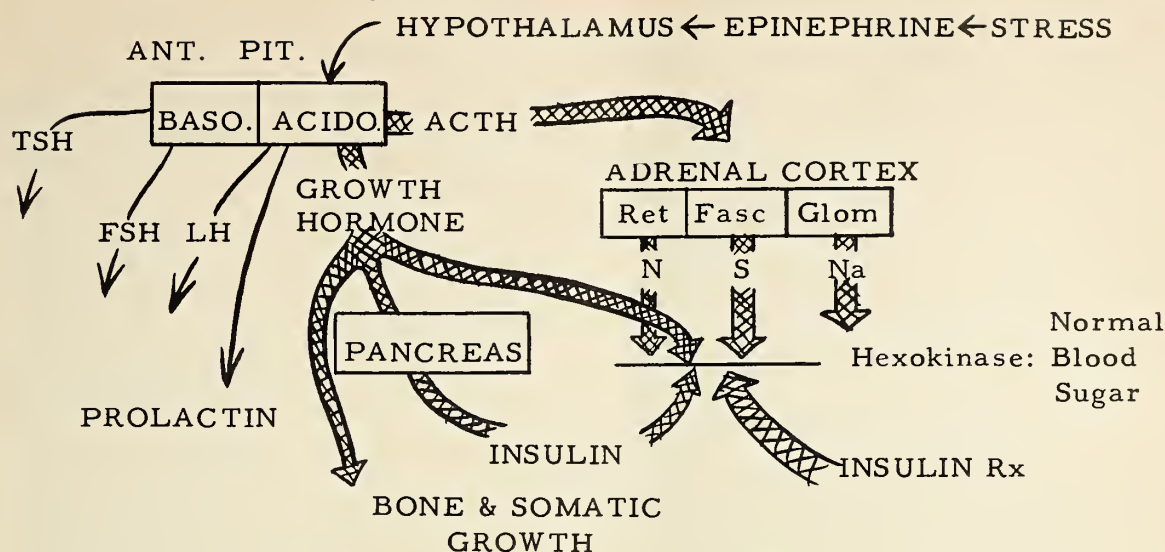


Fig. 3. Prediabetic and diabetic female, pregnant.

dren and adults may be due to an elevated hypophyseal-pancreatic balance, failure of which, through islet exhaustion, results in diabetes<sup>40</sup>. In a small number of clinical cases, diabetes is due primarily to excessive anterior pituitary secretion (acromegaly), and in a much larger group, anterior pituitary factors probably play an important role (the insulin-resistant type of diabetes).<sup>33</sup> Much larger doses of anterior pituitary hormone are required to produce diabetes in growing dogs than in adult ones, and growth of these immature dogs is more rapid than normal until diabetes appears.<sup>40</sup> McCullagh, Beck, and Schaffenberg<sup>18</sup> report a very interesting case of acromegaly accompanied by diabetes and arterial hypertension in a 45 year old woman whose glucose tolerance curve reverted from the diabetic type to complete normality under the influence of estrogen therapy. They assume that the estrogen caused pituitary inhibition, with secondary alterations in the hypophyseal-pancreatic balance relating to carbohydrate metabolism. Certain observations suggest, therefore, that both the diabetic and prediabetic woman may enter pregnancy in a metabolic state involving an elevated hypophyseal-pancreatic balance, characterized by the presence of excess growth hormone and excess insulin, which balance each other in the prediabetic female, and by the presence of excess growth hormone but inadequate endogenous insulin in the diabetic following partial or complete exhaustion of her pancreatic islets, leading to a need for exogenous insulin for maintenance of normal carbohydrate balance.

When the prediabetic or diabetic woman enters pregnancy, the additional factor of "stress" adds new metabolic problems, which are diagrammed in Figure 3. Pregnancy is a stressful situation for the normal woman; it is even more so for the diabetic. Venning<sup>34</sup> has shown that the non-preg-

nant diabetic excretes normal quantities of adrenal hormone end-products (corticoids and 17-ketosteroids) in the urine. These adrenal hormone end-products are elevated during pregnancy. We may, therefore, assume that during pregnancy, the diabetic woman is in a period of hyperadrenocorticism, which is superimposed on her previously elevated anterior-pituitary-pancreatic balance. The adrenal 11-oxycorticosteroids supplement the anti-hexokinase activity of pituitary growth hormone, and therefore tend to elevate the blood glucose level and decrease carbohydrate utilization. This hypothesis is in agreement with the common clinical observation that the pregnant diabetic is very difficult to control and requires more insulin to maintain normal levels of blood glucose and prevent ketosis.

In summary, pregnancy, for the prediabetic or diabetic female, adds the problem of excessive adrenocortical activity to a preexisting problem of anterior pituitary-plus-pancreatic hyperactivity. As will be noted later, considerable problems are thus added to those normally faced by the developing fetus.

#### EFFECTS UPON FETUS

The preceding discussion has led to the conclusion that the prediabetic or diabetic mother is in a state of metabolic imbalance characterized by hyperactivity of the pancreatic islets of Langerhans, anterior pituitary acidophilic cells (diabetogenic-growth complex and adrenocorticotrophic hormones), and adrenal cortex. How will these excessive outputs of potent maternal hormones affect the developing fetus?

Data to support or deny the possibility of transplacental transfer of hormones is meager, but certain observations are worth noting at this point. The exact chemical formulae of the various anterior pituitary hormones are not known. Their

general nature, however, has been well characterized.<sup>10</sup> Follicle-stimulating hormone, thyrotropin, and luteinizing hormone are all glycoproteins, follicle-stimulating hormone being the only anterior pituitary hormone which is an albumin. The other three anterior pituitary hormones (adrenocorticotrophin, growth hormone, and prolactin) are simple proteins. The molecular weights of these pituitary hormones vary from 20,000 to 70,000 (estimated). The hormonal products of the adrenal cortex are complex steroids related to cholesterol by chemical structure. Insulin is a protein molecule of 36,000 molecular weight. It is a well-known fact that the newborn infant frequently shows signs of excessive gonadotrophic stimulation (hypertrophy of gonads and genitalia) and of prolactin stimulation (mammary hypertrophy and secretion). These neonatal findings disappear rapidly following birth, and are considered to be due to maternal hormones stimulating the fetus transplacentally. Evidence suggests that maternal thyroid hormone may cross the placenta to the fetus under some circumstances, so that clinical cretinism of athyrotic infants may be masked for some time after birth. Recently, Frick<sup>10</sup> has demonstrated the transplacental transfer of an acquired anticoagulant factor, first demonstrated in the mother before pregnancy, and also recovered from the blood of her infant, born 15 months after the onset of maternal disease; the factor was present in the infant's blood for only the first two and one-half months of the infant's life. The precise chemical nature of this unusual

anticoagulant factor was not determined, but it was considered to be a protein. Transfer of various specific antibodies (globulins) across the placenta is generally accepted by immunologists and pediatricians. Barns and co-workers<sup>2</sup> have studied the fetal mortality in pregnant rats treated with anterior-pituitary extracts and in alloxan-diabetic rats. For the alloxan-diabetic group, the stillbirth rate and neonatal death rate were 18 per cent and 19 per cent, respectively, although of the liveborn young, only 50 per cent were weaned. However, when suitable doses of crude anterior pituitary extract, containing the "diabetogenic-growth complex" were given to non-alloxanized pregnant rats, the stillbirth rate was 100 per cent. These workers felt that the results were consistent with the hypothesis that "overproduction of the 'diabetogenic-growth complex' by the maternal anterior pituitary may be responsible for the high late-fetal mortality in prediabetic and diabetic women, as well as for the subsequent development of diabetes in the former."

Although definite proof of transplacental transfer of other hormones is so far unavailable, neither is there any evidence definitely to disprove such transfer. The following discussion will be based on the assumption that all maternal hormones which are proteins may, at times, affect the fetus by transplacental transfer.

Consider now the fetus developing within the diabetic female. Figure 4 presents the theoretical hormonal influences at work. The fetus is exposed to excessive amounts of maternally produced

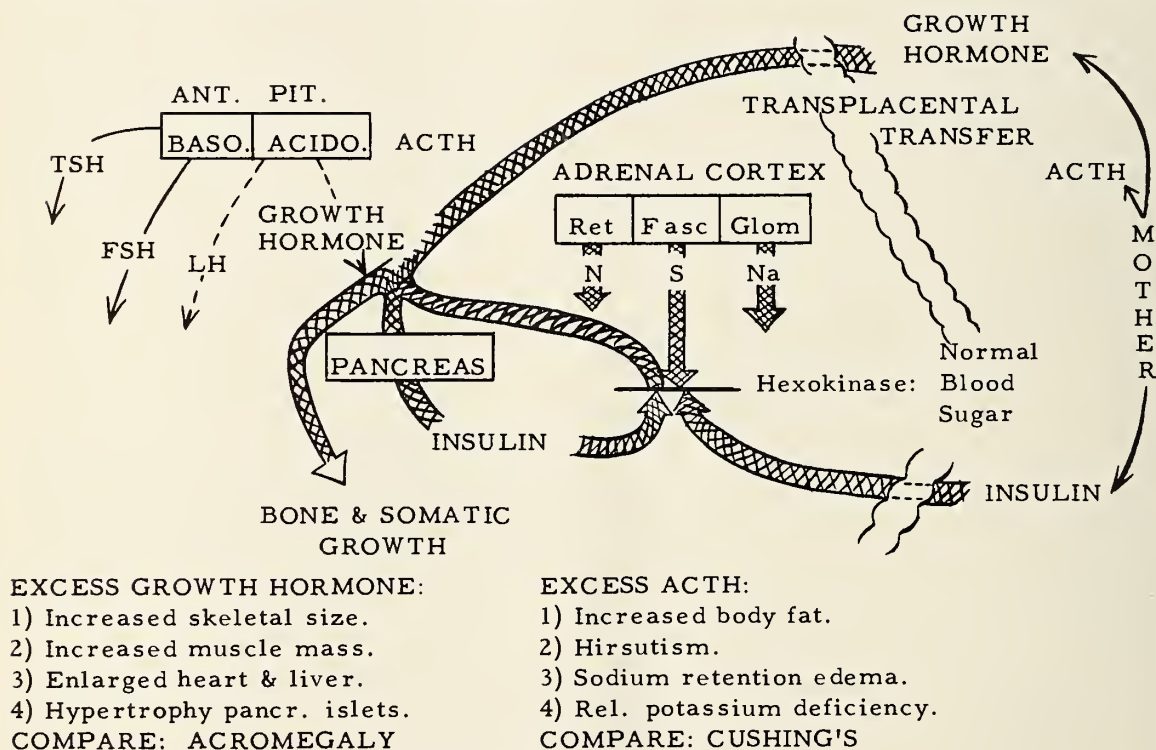


Fig. 4. Fetus in utero, prediabetic or diabetic mother.



growth hormone and adrenocorticotrophic hormone, and may also be influenced by the excessive amounts of exogenous insulin given to the mother therapeutically. At the same time, the anterior pituitary of the fetus is itself under the inhibitory influence of the excessive amounts of its normal products, so that the fetus may be considered comparable to a patient receiving large amounts of therapeutic ACTH whose own production of that hormone becomes markedly reduced. This hypothesis leads us to an examination of the newborn infant of a diabetic mother for possible evidence of exposure to excessive amounts of anterior pituitary growth hormone and adrenocorticotrophic hormone.

#### SITUATION OF INFANT

The typical newborn infant from a diabetic or prediabetic mother shows the following abnormalities<sup>25, 26</sup>: (1) a birth weight above the average for the period of gestation has been found in 80 per cent of the infants of diabetic mothers; (2) the size of the infant appears to be due to 3 distinct factors: obesity, edema, and splanchnomegaly, the liver, spleen, and heart being especially involved; (3) marked hyperplasia of the pancreatic islets of Langerhans is frequently found at autopsy; (4) general enlargement of the adrenal cortex with adenomatous changes is often found at autopsy; (5) hirsutism is a common finding. At birth, the infant usually cries well and vigorously, and aerates well. Further difficulties come later on, during the period starting about 4 hours after birth. These will be described later. Let us first see if we can correlate these findings at birth with our hypotheses concerning the maternal hormonal influences affecting the fetus in utero.

The typical acromegalic patient, whose changes have been shown to be associated with the production of excessive amounts of growth hormone, shows the following alterations<sup>19, 38, 40</sup>: (1) increased size and weight; (2) splanchnomegaly, involving particularly the liver and spleen; (3) marked cardiac hypertrophy without evidence of arteriosclerosis, and with definite excess glycogen storage; (4) generalized enlargement of the adrenal cortex with adenomatous changes; and (5) hyperplasia of the islets of Langerhans. These alterations closely approximate many of the most obvious changes observed in the newborn infant from the diabetic mother.

Signs and symptoms of hyperactivity of the adrenal cortex are frequently observed in patients receiving ACTH therapy. They include increased body fat, hirsutism, sodium-retention edema, and excessive erythropoiesis, to mention a few.

If one assumes that the fetus of the diabetic mother is developing under the influence of excessive amounts of growth hormone and adrenocorticotrophic hormone, and then attempts to predict the effects of this hormonal environment as

shown by the newborn infant so produced, one finds that such a hypothetical infant corresponds almost exactly to the typical infant from a diabetic mother, as described above.

#### PERIOD OF CRISIS FOR THE INFANT

The clinical picture of the newborn infant, from a diabetic mother, who is not progressing well, is fairly characteristic. Beginning from 2 to 4 hours after birth, comes the onset of respiratory distress, bouts of cyanosis, apnea, and sweating. Death follows, at 18-36 hours postpartum. Autopsy rarely shows anything but moderate atelectasis of the lungs.<sup>36</sup>

In the past, this dramatic and usually fatal course of events has been attributed to alterations in the level of blood glucose of the newborn infant. It has been stated<sup>13</sup> that "roughly one-half of the infants born of diabetic mothers have shown severe hypoglycemia, with symptoms occurring during the first day or two of life." This same author, however, notes that "the severity of the symptoms was not always related to the blood glucose levels," his "symptoms" varying from mild ones (restlessness and cyanosis) to more severe ones (unconsciousness and convulsions). Despite the lack of correlation between symptoms and blood glucose levels, Hartmann classifies these cases as "temporary true hyperinsulinism due to hyperactivity of the islands of Langerhans which is physiologic and induced by the occurrence of hypoglycemia."

Other workers<sup>19, 20, 21, 22</sup> disagree with the theory that the infant from a diabetic mother gets into trouble because of hyperinsulinism. They have demonstrated that although the average blood-glucose concentration in infants born to diabetic mothers is significantly lower than in normal full-term infants, that some of the blood-glucose concentrations in the normal full-term infants are as low as some included in the group of infants from diabetic mothers, and that the blood-glucose concentrations in otherwise normal premature infants average practically the same as those of infants whose mothers have diabetes.<sup>21</sup> Furthermore, treatment of these postpartum symptoms with glucose failed in every case to alleviate symptoms. Perhaps most damaging of all to the hypoglycemic explanation of these symptoms is the observation<sup>19</sup> that all the phenomena observed in infants born to diabetic mothers (dyspnea, cyanosis, muscular twitchings, convulsions, etc.) are to be found among infants born before the onset of maternal diabetes. Therefore, they conclude, one cannot logically blame hypoglycemia for these neonatal disturbances.

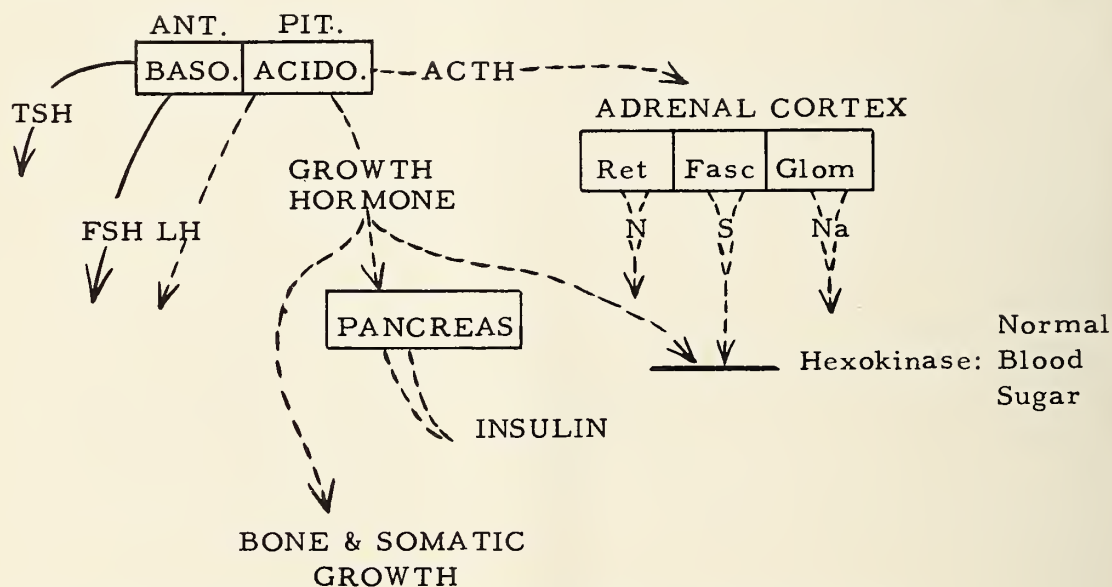
Let us again consider the hormonal situation in the newborn infant from a diabetic mother, to find another possible explanation for the dramatic changes which have their onset two to four hours postpartum. Figure 5 shows the endocrine status of such a newborn, based on our previously stated

postulates. It will be seen that, following withdrawal of the maternal excesses of growth hormone and adrenocorticotrophic hormone, the newborn infant is left in a period of relative pituitary insufficiency, similar to that seen following abrupt discontinuation of ACTH therapy in clinical medicine. A correlation may be made between the time of onset of dramatic symptoms in the infant and the time of maximum effect on eosinophiles observed from an injection of ACTH (Thorn test). Thus, about 4 hours after the infant has ceased to be under the influence of maternal ACTH, his adrenocortical activity begins to subside rapidly, and the infant goes into a state of adrenal insufficiency. At the same time, pancreatic islet activity is subsiding rapidly following withdrawal of growth hormone stimulation. Theoretically, this simultaneous decrease in pancreatic and adrenal activities can account for the observed changes in blood-sugar levels in this newborn infant: (1) initial hyperglycemia, due to primary loss of the excess growth hormone anti-hexokinase activity, followed by (2) moderate hypoglycemia at 4 hours, due to persistent hyperinsulinism (slower decline in curve of activity) while adrenal corticoids are becoming inactivated, and finally (3) relatively normal blood-sugar levels at 8 hours postpartum, after both adrenal and pancreatic activities have declined to subnormal levels. This dramatic fluctuation in blood-sugar level does occur, but is not the cause of the in-

fant's severe signs and symptoms which begin at about 4 hours.

However, if one recalls that the fetus has been subjected to prolonged stimulation by excessive amounts of both anterior pituitary and adrenocortical hormones, and the effects of such stimuli on electrolytic balance, one finds another possible cause of the neonatal difficulties. In utero, the excess production of sodium-retaining (DOCA-like) hormone leads not only to the generalized, sodium-retention edema observed in the newborn infant from the diabetic mother, but concomitantly produces a relative potassium deficiency. In the neonatal period, therefore, such an infant is potassium deficient and, so long as he receives no formula, the infant cannot readjust his electrolytic balance toward normal. The effects of hypopotassemia are observed clinically by changes in cardiac function and skeletal muscle function, symptoms and signs being congestive failure and generalized weakness, with or without tremors. These are the symptoms and signs which appear several hours after birth in such an infant who is doing poorly. Miller and his co-workers<sup>19, 20, 21, 22</sup> have demonstrated that the respiratory symptoms (dyspnea and cyanosis) are, in reality, evidence of congestive failure, though they offer no explanation of the basis for such cardiac failure.

Wolman<sup>41</sup> offers an interesting bit of corroborative evidence for the above hypotheses. He gave a dose of 5 mg. of ACTH to 24 full-term and 12 premature newborn infants, and measured the



#### FOLLOWING WITHDRAWAL OF MATERNAL EXCESS ACTH:

- 1) Relative anterior pituitary and adrenocortical insufficiency.
- 2) Hypopotassemia.
- 3) Cardiac failure.
- 4) Shock.

Fig. 5. Infant from prediabetic or diabetic mother, postpartum.



changes in circulating eosinophiles. Sixteen of the full-term and four of the premature infants showed a normal response, with a 50 per cent decrease in eosinophiles on the first day of life. All but two of the remainder showed a normal response on the second day of life. However, an infant born of a diabetic mother did not give a normal response until the end of the first week. One can theorize that a dosage level of 5 mg. ACTH, which was quite effective in producing a fall in eosinophiles in other infants, was ineffective as a stimulus for an infant who had just been subjected to much greater quantities of ACTH transplacentally.

#### CONCLUSIONS

The newborn infant from a prediabetic or diabetic mother has developed in an environment characterized by excessive stimulation by both anterior pituitary and adrenocortical hormones, secondary to hormonal alterations in the diabetic mother. The characteristic habitus of the infant reflects the influence of these hormonal stimuli. Following birth, the infant is in a period of relative hypopituitarism and hypoadrenocorticism, the effects of which become clinically obvious about 2 to 4 hours postpartum, and may lead to death in 18 to 36 hours.

#### SUGGESTED APPROACHES TO FURTHER STUDY AND TREATMENT

Collection of data not presently available seems indicated, to substantiate, modify, or disprove the hypotheses set forth. From the pediatrician's viewpoint, these studies should include measurements which illuminate as many aspects of pituitary and adrenal function in these infants as possible. Of particular interest would be the following observations: (1) serial electrocardiograms (for possible evidence of hypopotassemia), (2) serum electrolyte levels at birth and at 4 and 8 hours, (3) eosinophile counts at birth and at 4 and 8 hours postpartum.

If the foregoing hypotheses are correct, during the critical first 24 hours of life these infants will benefit from therapy which includes: (1) potassium-containing parenteral solutions, and (2) ACTH in gradually decreasing doses.

#### BIBLIOGRAPHY

- Barach, J. H.: Modern Concepts of the Physiopathology of Diabetes Mellitus. *Am. J. Digest. Dis.* 19:61-6, (March) 1952.
- Barns, H. H. F., Lindan, O., Morgans, M. E., Reid, E., and Swyer, G. I. M.: Fetal Mortality in Pregnant Rats Treated with Anterior-Pituitary Extracts and in Alloxan-Diabetic Rats. *Lancet* 2:841-44, (Dec. 23) 1950.
- Beach, E. B., Bradshaw, P. J., Blatherwick, N. R.: Response to Alloxan Modified by Gonadectomy. *Endocrinol.* 50:212-7, (February) 1952.
- Beaser, S. B.: Medical Progress: Diabetes Mellitus. *N. E. J. Med.* 247:397-403, (September 11) 1952.
- Bornstein, J., Reid, E., and Young, F. G.: The Hyperglycemic Action of Blood from Animals Treated with Growth Hormone. *Nature* 168:903-905, (November 24) 1951.
- Brown, H., Hargreaves, H. P., and Tyler, F. H.: Islet Cell Adenoma of the Pancreas: Metabolic Studies on a Patient Treated with Corticotropin and Cortisone. *A.M.A. Arch. Int. Med.* 89:951-60, (June) 1952.
- Conn, Jerome W., Fajans, S. S., Louis, Lawrence H., and Seltzer, H. S.: A Metabolic Evaluation of the Raben-Westermeyer Growth Hormone in a Pituitary Dwarf with Coexisting Diabetes Mellitus. *Central Soc. Clin. Research, Chicago*, (November 7) 1952.
- Cramer, Harry I.: Diabetes Mellitus and Pregnancy. *Canad. M. A. J.* 65:328-33, (October) 1951.
- Dunham, Ethel C.: Premature Infants: A Manual for Physicians. Fed. Security Agency, Children's Bureau, 1948.
- Frick, Paul G.: Hemophilia-Like Disease Following Pregnancy with Transplacental Transfer of an Acquired Circulating Anticoagulant. *Central Soc. Clin. Res., Chicago*, (Nov. 7), 1952.
- Given, William P. et al.: Pregnancy and Diabetes. *Am. J. Obst. & Gynec.* 59:729-747, (April) 1950.
- Hall, R. E., and Tillman, A. J. B.: Diabetes in Pregnancy. *Am. J. Obst. & Gynec.* 61:1107-1115, (May) 1951.
- Hartmann, Alexis F.: Hypoglycemia. In Brennemann's Practice of Pediatrics, (Hagerstown, Prior, 1948) Vol. I, Ch. 24, Sec. 2, pp. 21-30.
- Knoles, H. C., Jr., and Guest, G. M.: Tissue Electrolytes in Alloxan-Diabetic Rats with Ketoacidosis. *Proc. Soc. Exper. Biol. and Med.* 79:552-4, (March) 1952.
- Lawrence, R. D., and Oakley, W. P.: Pregnancy and Diabetes. *Quart. J. Med.* 11:45-75, (Jan.) 1942.
- Lichtenstein, H., Guest, G. M., and Warkany, J. P.: Abnormalities in Offspring of White Rats Given PZI During Pregnancy. *Proc. Soc. Exper. Biol. and Med.* 78:398-402, (November) 1951.
- Long, C. N. H.: The Endocrine Control of the Blood Sugar. *Diabetes* 1:3-11, (Jan.-Feb.) 1952.
- McCullagh, E. P., Beck, J. C., and Schaffenburg, C. A.: Disappearance of Diabetes During Estrogen Therapy in Acromegaly. *Cleveland Clin. Quart.* 19:121-26, (July) 1952.
- Miller, H. C.: The Effect of Diabetic and Prediabetic Pregnancies on the Fetus and Newborn Infant. *J. Pediat.* 29:455-61, (Oct.) 1946.
- Miller, H. C., Hurwitz, David, and Kuder, Katherine: Fetal and Neonatal Mortality in Pregnancies Complicated by Diabetes Mellitus. *J.A.M.A.* 124:271-5, (Jan. 29) 1944.
- Miller, H. C., and Ross, R. A.: Relation of Hypoglycemia to the Symptoms Observed in Infants of Diabetic Mothers. *J. Pediat.* 16:473-481, (April) 1940.
- Miller, H. C., and Wilson, H. M.: Macrosomia, Cardiac Hypertrophy, Erythroblastosis, and Hyperplasia of the Islands of Langerhans in Infants Born to Diabetic Mothers. *J. Pediat.* 23:251-66, (Sept.) 1943.
- Nelson, W. E.: Newborn Infants of Diabetic Mothers. *Mitchell-Nelson Textbook of Pediatrics*, (Phila., Saunders, 1950) 5th ed., pp. 1433-4.
- Pedersen, Jorgen: Course of Diabetes During Pregnancy. *Acta Endocrinologica* 9:342-64, (April) 1952.
- Raben, M. S., and Westermeyer, V. W.: Differentiation of Growth Hormone from the Pituitary Factor which Produces Diabetes. *Proc. Soc. Exper. Biol. & Med.* 80:83-86, (May) 1952.
- Reis, Ralph A., et al.: The Management of the Pregnant Diabetic Woman and Her Newborn Infant. *Am. J. Obst. & Gynec.* 60:1023-1042, (Nov.) 1950.
- Ritmiller, LeRoy F., and Nicodemus, R. E.: Diabetes Mellitus Complicating Pregnancy. *Pennsylvania M. J.* 55:409-412, (May) 1952.
- Shepherd, S. J., Jr., Smith, S. J., and Longwell, B. B.: The effect of Alloxan Diabetes on the Response of the Adrenal Gland to Cold Stress. *Endocrinol.* 50:143-9, (Feb.) 1952.
- Sisson, W. R.: Neonatal Problems in Infants of Diabetic Mothers. *J.A.M.A.* 115:2040-44, (Dec. 14) 1940.
- Smith, George Van S.: Chapter on "The Ovaries" in *Williams' Textbook of Endocrinology*, (Phila., Saunders, 1950).
- Smith, O. W., and Smith, George Van S.: Use of Diethylstilbestrol to Prevent Fetal Loss from Complications of Late Pregnancy. *N. E. J. Med.* 241: 562-568, (Oct. 13) 1949.
- Stanbury: Function and Methods of Measuring Activity of Pituitary Hormones. *Harvard Lecture Series*, 1950.
- Thorn, G. W., and Forsham, P. H.: Chapter on "The Pancreas and Diabetes Mellitus" in *Williams' Textbook of Endocrinology*, (Phila., Saunders, 1950).
- Venning, E. H., and Brown, J. S. L.: Excretion of Glycogenic Corticoids and of 17-ketosteroids in Various Endocrine and Other Disorders. *J. Clin. Endocrinol.* 7:79-101, (Feb.) 1947.
- White, F. P., and Sutton, L. E., Jr.: Observations on Pituitary-Adrenal Response to Epinephrine (Eosinophil Depression Test). *Pediatrics* 5:876-882, (May) 1950.
- White, P.: Pregnancy Complicating Diabetes. *J.A.M.A.* 128:181-182, (May 19) 1945.
- White, P.: Pregnancy Complicating Diabetes. *Am. J. Med.* 7:609-616, (Nov.) 1949.
- Wilkins, Lawson: Chapter on "Influence of Endocrine Glands Upon Growth and Development" in *Williams' Textbook of Endocrinology*, (Phila., Saunders, 1950).
- Williams, F. W.: Pituitary Necrosis in a Diabetic During Pregnancy: The Houssay Phenomenon in Man. *Diabetes* 1:37-40, (Jan.-Feb.) 1952.
- Williams, R. H.: Chapter on "The Pituitary Gland" in *Williams' Textbook of Endocrinology*, (Phila., Saunders, 1950).
- Wolman, B.: The Function of the Adrenal Glands in



the Newborn. Arch. Dis. Childhood 27:283-285, (June) 1952.  
42. Young, F. G.: Growth and Diabetogenic Action of Anterior Pituitary Preparations. Brit. Med. J. 2:897-901, (Dec. 27) 1941.

### TRUDEAU SOCIETY MEETING

The Mississippi Valley Conference of the Trudeau Society is to be held at the Nicollet Hotel, in Minneapolis, on October 15, 16 and 17. The papers that are to be read include: "Old Tuberculin and Bacillary Emulsions Under Chemotherapeutics Cover in Treatment of Tuberculosis," by Dr. D. G. Madigan, of Kent, England; "Accomplishments and Future Needs to Eradicate Tuberculosis," by Dr. J. Arthur Myers, of the University of Minnesota; "How to Establish an Industrial Health Program," by T. A. Duckworth, of the Employees' Mutual Liability Insurance Company of Wisconsin; "The Nodular Lesion," by Dr. Donald S. King, president of the American Trudeau Society, Brookline, Massachusetts; "Experience in the Management of Meningeal and Miliary Tuberculosis," by Dr. J. Park Biehl and Dr. Morton Hamburger, of the University of Cincinnati; "Genito-Urinary Tuberculosis," by Dr. John Lattimer, of Columbia University; "Report of Isoniazid Study by U. S. Public Health Cooperative Group," by Dr. Harold G. Curtis, of Western Reserve University; "Tuberculosis Control in Industry," by Dr. Dan Morse, medical director of the Peoria Municipal Tuberculosis Sanatorium, and Drs. Harold Vonachen and M. H. Kronenberg, of the Caterpillar Tractor Company; "Bacterial Resistance to Modern Chemotherapeutic Agents," by Alfred G. Karlson, of the Mayo Clinic; "Esophageal Surgery," by Dr. Saul A. Mackler, Chicago; "Pulmonary Circulation in Mitral Stenosis and Alterations Following Valvulotomy," by Dr. J. Gerard Mudd, of St. Louis University; "Surgery of the Mitral Valve," by Dr. C. Rollins Hanlon, also of St. Louis University; "Respiratory Acidosis," by Dr. William W. Stead, of Fitzsimmons Army Hospital, Denver; and "Presentation of Cases, Diagnosis and Management of Pulmonary Infiltrates," by Dr. William B. Tucker, of the V.A. hospital in Minneapolis.

A presentation of the T-V program "Doctors' Round Table" will be the principal feature of the program of the annual dinner of the Minnesota Tuberculosis and Health Association, on October 15, to which all of the physicians in attendance are invited.

### SUI HEART INSTITUTE

An institute on heart diseases under the joint sponsorship of the Division of Heart Disease Control of the State Department of Health and the Department of Pediatrics and Internal Medicine of SUI is to be held at University Hospitals, Iowa City, on Thursday, November 19, 1953, beginning at 1:30 p.m. and concluding at 9:30 p.m. The program consists of talks by Dr. Lewis Thomas, of

the University of Minnesota, on "The Present Status of Research on the Pathogenesis of Rheumatic Fever"; by Dr. Charles May, of SUI, on "Rheumatoid Arthritis in Children"; by Dr. Richard Ebert, of Northwestern University, on "Physiology of the Circulation in Acute Infections"; and Dr. William Bean, of SUI, on "Some Clinical Problems in Aortic Stenosis." Physicians attending the institute will have an opportunity to inspect the Cardiovascular Laboratory at the University.

### AMERICAN COUNTRY LIFE CONFERENCE

The Annual Conference of the American Country Life Association is to be held in Memorial Hall, at Iowa State College, October 5-8, 1953. The sessions include a get-acquainted Kaffee Klatsch on Monday evening, October 5, a group discussion on "Better Health," at which Leonard C. Murray, Ph.D., of the State Department of Health, will preside, at 2:15 PM on Tuesday October 6, and the following addresses: "Government's Role in Health," by F. S. Crockett, M.D., chairman of the Council on Rural Health of the A.M.A., Lafayette, Indiana, at 10:45 AM, Wednesday, October 7; "Agricultural Leadership," by J. Earl Coke, Assistant Secretary of Agriculture (US), at the dinner meeting, 6:30 PM, on Wednesday, October 7; and "Casualty Consciousness," by Walter R. Courtenay, D.D., minister of the First Presbyterian Church, Nashville, Tennessee, at 9:15 AM, on Thursday, October 8.

Physicians are welcome to attend all sessions.

### INTERPROFESSIONAL MEETINGS

Regional meetings of the Iowa Interprofessional Association are to be held in Atlantic, on October 5; in Spencer, on October 7; and in Fort Dodge, on October 8. At each of these regional gatherings, representatives of the State Medical Society, the Hospital Association, the Iowa Pharmaceutical Association, the Iowa State Dental Society, the Iowa Veterinary Medical Association, and the Iowa State Nurses Association will discuss health projects of their respective organizations that are of interest to all professional people.

### NORTH CENTRAL MEDICAL CONFERENCE

The annual meeting of the North Central Medical Conference is to be held at the Hotel St. Paul, in St. Paul, Minnesota, on Sunday, November 1. Panel discussions will cover medical care for veterans, the malpractice problem, and the placement of physicians. There probably will be two panels preceding dinner, and two following, with election of officers to be held at the afternoon session. Any Iowa physician interested in the program of the Conference is welcome to attend.



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
 RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
 MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
 ALLAN G. FELTER, M.D.....Van Meter  
 DANIEL A. GLOMSET, M.D.....Des Moines  
 TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
 JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
 WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
 ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
 EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
 529-36th Street, Des Moines 12

Vol. XLIII      OCTOBER, 1953      No. 10

## NURSE UTILIZATION NEEDS IMPROVEMENT

Despite efforts to recruit nursing students not only by the medical profession, but by other groups as well, nurses will continue to be scarce for a considerable time to come. Indeed, we are told, the problem would not be completely solved if the nursing schools could be filled to overflowing.

The reasons are numerous. Because of the larger number of geriatrics patients, the construction of new hospitals, the public's readier acceptance of hospitalization and the new types of medication that can be delegated to nurses, there is more work for nurses to do than there used to be. And the shortening of nurses' work week and the increase of the number of nurses in the Armed Forces (5,000 since 1949) complicate the situation.

Consequently, the President of the American Medical Association, Dr. Edward J. McCormick, and the President of the American Hospital Association, Dr. Edwin L. Crosby, are making a joint appeal for greater care in utilizing nurse services. Physicians, they say, are the people who can best enable hospitals to continue giving adequate care, and they ask their cooperation in the following program:

1. Reviewing daily orders and standing orders for patients, discontinuing unnecessary orders, and making a clear distinction between routine and emergency orders.

2. Facilitating prompt discharges and admissions according to hospital policy.

3. Recognizing the economy of scheduling hospital rounds, treatments, and surgical procedures to fit into essential hospital routine.

4. Cooperating with the standardizing of supplies and equipment and using stock items whenever possible.

5. Completing medical records promptly.

6. Teaching patients self-care and the activities of daily living. This is an important part of early ambulation and rehabilitation.

7. Requesting private-duty nurses only when they are essential to the safety and welfare of the patient.

## OPERATION SNAFU

The number of physicians who have volunteered for active duty in the Armed Forces now exceeds present medical-officer requirements, and as a result, the National Advisory Committee to Selective Service has announced that it expects no further drafting of physicians, at least for the next twelve months.

That is good news for physicians who were anticipating draft calls within the next year, but had not as yet closed their offices. It is certainly no help, however, to some others. One such group consists of the 524 men who were included in Call No. 16, in August—the call which, for no perceptible reason, the Selective Service System refused to rescind. Another such group consists principally of men in priorities 1 and 2 who would like to take residencies but cannot, because hospitals are prohibited from accepting them. Now, presumably, they will be left waiting for a year or more. In addition, of course, there are some doctors who have either closed their offices in anticipation of going into military service or have made irrevocable preparations for so doing.

It should be obvious that the Selective Service System has done an injury not only to the doctors themselves, but to considerable numbers of the public, who are—or were—their patients.

## THROCKMORTON'S FABLES

Once upon a time, when the world was younger, and there were no stoplights, and the banker was a leading citizen, there lived two surgeons. Doctor A was portly, pompous and peevish, and wore a full beard. Doctor B was built about like Doctor A, except that he had mutton chops. These two men were very busy, what with driving furiously about town in rubber-tired buggies and operating and saving lives all day. Sometimes at night, too! They were also busy disagreeing. Some folks said they couldn't even agree as to whether or not it was raining. Doctor A always prescribed hot stupes, and Doctor B had confidence only in cold applications.

One day Doctor A had saved a man's life—by operating, of course—and the man was very grateful. But the man's incision did not heal well and even drained a bit. He was concerned about this, but one of his neighbors was even more concerned and

suggested that he certainly should see "my Doctor B."

The man waited upon Doctor B in his office. Doctor B looked at the incision, raised his eyebrows, and clucked his tongue in sympathy. "How long has this been going on? Such a wide scar, and," probing briskly, "painful too." The probe brought to light a catgut knot, and Doctor B bristled and whistled in the same breath. "Don't tell me you were stitched up with Old Ironside Catgut!"

"And," he added, peering closely, "not even a square knot. You poor soul, how did this ever happen?" The man, now a "poor soul," admitted that Doctor A had operated upon him. Doctor B's air of immediate concern changed quickly to one of Condolence—with a very large C. "See me tomorrow," he said. "I'll do the best I can for you."

The man with the incision felt anxious and thought perhaps Doctor A had neglected his case. He wasn't quite certain how many dollars worth of anxiety and neglect he felt until his nephew, a young attorney, helped him with his calculations. There was a question as to just where the decimal point went.

The nephew worked hard and long on the case. As a matter of fact, while going out one night for a late cup of black coffee, he slipped, fell downstairs, and injured his ankle. Doctor B was summoned and came at once, in his rubber-tired rig. He exuded confidence, diagnosed a sprain, prescribed cold applications, and departed hurriedly to perform an operation elsewhere.

The ankle did not respond to cold, and the nephew wore out two pairs of rubber crutch tips the following three weeks. His landlady, perhaps worried about his future, made a suggestion. "Doctor A has one of those new fangled X-ray machines that's mighty good for bones and joints and the like, I hear."

The nephew hobbled into Doctor A's office on his new crutch tips, and displayed his ankle. "And you say he prescribed cold applications?" Doctor A gasped. "My! my! I should think it stiff and blue enough as it is. You must be made of Spartan stuff!" The X-ray was advised, taken, and developed. A look of real pain, not concealed by his full beard, passed over the face of Doctor A. "My poor, poor lad! A chip fracture.—That's what I said, a *chip fracture*! And you've had no hot applications either. Well, I'll do the best I can, but even with heat it will be slow, mighty slow."

The nephew felt aggrieved. Actually he felt aggrieved for about the same number of dollars worth as his uncle had felt anxious over his incision.

#### Morals:

1. Both Doctor A and Doctor B had to sell their rubber-tired rigs to pay legal fees, and found it slower work saving lives on bicycles.

2. Doctor X, who had Burnside's and rode in a

carriage, got most of their business and was elected as an alternate delegate to the AMA.

3. The Golden Rule is as applicable to medical ethics as it is to any other way of life.

### AMA PUBLIC RELATIONS INSTITUTE

"New Ways to Better Public Relations" was the theme of the Second Annual Public Relations Institute, conducted by the American Medical Association, on September 2 and 3 at the Drake Hotel, in Chicago. The meetings attracted 286 physicians and lay people who are actively engaged in cultivating public goodwill for the medical profession.

In his address, which opened the Institute, Dr. Ernest B. Howard, of Chicago, Assistant Secretary of the AMA, said: "We in the medical profession represent an army of public relations volunteers and stand ready to serve, but we must depend on the individuals who are public relations experts to teach us how to pass the ammunition.... We hope this conference will bring to us new words and technics which will be useful in our strong opposition to greater centralization in government."

And Dr. Howard declared the conference to be one of the most important of the AMA's yearly meetings.

#### MOVIE FILMS AND T-V PROGRAMS

A series of filmed T-V shows available for exclusive use by state and county medical societies was reviewed by delegates to the Institute. Two of these films, "A Citizen Participates," and "Your Doctor," are available in 16 mm. size for showings to schools and to club groups.

"A Citizen Participates" shows how a single citizen sparks a campaign to get a doctor for a town that needs one. Actually photographed in a small Kansas town, the film also shows the ways in which the people go about making their town attractive to the prospective doctor and his family. The running time of this motion picture is 28 minutes.

"Your Doctor," a Louis de Rochemont production, begins with general information about M.D.'s in the United States. It tells what goes into the training of a physician, and then spotlights the career of a general practitioner who serves a rural area of North Carolina. This film is said to have had wide appeal to the audiences that have seen it in commercial-theatre showings. These films can be obtained by writing: T-V Film Library, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

A 27-minute television play, called "Operation Herbert," and a series of six 5-minute films on home medical problems have been produced by the AMA's Bureau of Health Education. They will be available for showing to local groups only after they have appeared on television. "Operation Herbert" is a fast-moving play with a humorous touch. Herbert, who is screen and T-V actor



Jackie Kelk, goes to the hospital for an appendectomy under the watchful eye of his penny-pinching Aunt Agatha. He becomes interested in his attractive private nurse, and in order to gain the nurse's attention and win a point with his aunt, he demonstrates that it costs less to have an appendectomy now than it did in 1937. The six 5-minute films on home medical problems show "what to do" in using a thermometer, applying artificial respiration, maintaining a medicine chest, and in emergency treatment of colds, abdominal pains and headaches. These films are useful as 5-minute spot showings, or as "kick-offs" for discussion shows.

Experts in the field of television appeared before the conference to suggest ways in which the medical profession can best use the new medium as a part of its public-relations program. The speakers discussed public-service T-V shows, T-V assistance available from the AMA, productions in which medical schools and health departments can cooperate with medical societies, and local promotion of network medical shows. Many of the ideas that were conveyed in those presentations will be utilized by the Iowa State Medical Society in its weekly television series over WOI-TV (Ames), which begins on Thursday, October 1, at 7:30 p.m.

#### PUBLIC RELATIONS THROUGH BLUE SHIELD

At one of the sessions, the Institute was divided into three work-shop groups for the exchange of ideas and technics for handling public-relations problems. The groups dealt with such topics as: Successful PR program on a small budget; Medicine's relations with labor; Television writing and production; Methods for combatting cultists and quacks; Press coverage of a state medical meeting; Society support for its woman's auxiliary.

On the second day of the conference, the delegates considered: "Solving Mutual Medical Society-Blue Shield PR Problems"; "Health Forums Sponsored by Newspapers and Medical Societies"; and "How Can Medicine's Story Best Be Told?"

Each speaker who appeared on the Medical Society-Blue Shield PR Problems panel gave his impression of the nature of the difficulties and his ideas for solving them. All of their comments centered upon close cooperation between the sponsoring medical society, the individual physician, and the Blue Shield organization. Following are a few of the speakers' suggestions:

1. Acquaint Blue Shield personnel with the fundamentals of private medical practice and medical organization. The job could be done by inviting them to tour the state medical society headquarters and to attend a lecture on medical practice. It was also recommended that the state societies invite Blue Shield lay officials to attend state society conferences and annual medical meetings, and, when possible, to attend the AMA annual meeting.

2. Doctors should be asked to approve Blue Shield literature that is to be distributed to the public, as a safeguard against giving the public erroneous impressions about medical fees, practices, etc.

3. Field staff should keep doctors and their office personnel informed on all matters relating to Blue Shield, by addressing them at county medical meetings, hospital-staff meetings, and secretary-nurse meetings.

4. Management and labor should be informed, at every opportunity, of what has been done and is being done to make it possible for people to budget their medical expenses.

#### HEALTH FORUMS

Speakers experienced in conducting health forums participated in the discussion of that topic. These discussants—newspapermen and physicians—recommended co-sponsorships by medical societies and newspapers. The programs are one hour in length, with 15 minutes allotted to the presentation of a timely medical subject and 45 minutes to discussion. The doctors furnish the medical information, and the newspapers furnish the publicity. In the ads that the newspaper donates to publicize the health forum, readers are asked to send questions on medical subjects for the panel to discuss at the meetings. These questions then are furnished in advance to the physicians who are to speak, so that they may have adequate time for preparing complete and considered answers.

The number of physicians, the panel members agreed, may vary, but the total should be kept under seven, including the moderator. One medical society and a newspaper conducted a series of eight forums, all of which were attended by capacity audiences. This success, they declared, was the result of good planning and wide publicity. A press representative stated that his newspaper donated 10 full-page ads plus a number of smaller ones and some news stories. The 3,101 column-inches of advertising, he said, cost an estimated \$13,092.78. When asked why the newspapers were willing to take such an active part in this health project, he replied, "We feel that this is one way for us to make a public-service contribution to our community, and, in addition, it gives us access to excellent medical news stories."

"How Can Medicine's Story Best Be Told?" When the Institute undertook this final item on its agenda, the delegates were divided into several small groups, and each was assigned a public-relations problem to solve. Afterwards, a representative from each of the subdivisions submitted recommendations to the whole group, and a prize was awarded the group that presented the best suggestions, in consideration of the problem assigned. The group which had an Iowa physician as its chairman, Dr. Donovan Ward of Dubuque, was declared winner.

The other Iowa representatives at the Institute were: Dr. Otto N. Glesne and Dr. A. P. Echternacht, of Fort Dodge; Dr. T. W. McMeans and Dr. Harry Weinberg, Davenport; Dr. Isaac Sternhill, Council Bluffs; Dr. R. D. Bernard, Mr. D. L. Taylor and Mr. Ed. Kingery, Des Moines; and Mrs. E. B. Hoeven, of Ottumwa, President of the Woman's Auxiliary of the Iowa State Medical Society.

## MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

### COMMITTEE ON INDUSTRIAL HEALTH

September 9, 1953

The Committee on Industrial Health met in the office Wednesday morning, September 9, 1953, with the following persons present: Doctors R. F. Frech, of Newton, H. A. Amesbury, of Clinton, C. J. Lohmann, of Burlington, S. T. Moen, of Cedar Rapids, and C. H. Coughlan, of Des Moines. Dr. Bernard also attended.

The meeting was called to order at 10:40 a.m., and plans for a manual on industrial health for small industries was discussed. The committee decided to prepare a manual for distribution, basing it on manuals published by Indiana and Wisconsin, and divided the work among the members. It also decided to hold five institutes on industrial health in the spring, and decided on the essentials of the program, and with what groups to cooperate. Meeting adjourned at 1:15 p.m.

### COMMITTEE ON MENTAL HEALTH

September 9, 1953

The Committee on Mental Health met in the office Wednesday afternoon, September 9, 1953, with all members present. They included Drs. John I. Marker, L. B. Sedlacek, H. C. Merrillat, G. R. Rausch, J. D. Mahoney, M. B. Emmons, and C. C. Graves. The meeting was called to order at 1:15 and four physicians were proposed for possible guest speakers at the annual meeting.

The committee next discussed mental health clinics and recommended that a psychiatrist should be the executive of such clinics, with a lay person to be administrative director only. This recommendation is to be sent to the Iowa Mental Health Authority to define the opinion of the psychiatrists of the state.

Reverend Noel Orcutt, president of the Iowa Society for Mental Hygiene, next appeared to ask the help of the committee in an advisory capacity. After discussion, the committee agreed to recommend physicians to serve in an advisory capacity if the Society requests such action.

The need for a new commitment law was also discussed, this bringing in the need for more education of all doctors in the recognition and treatment of mental disease.

Dr. Graves then said he would like to upgrade the treatment in the mental hospitals by permitting private practitioners to come into them. This was discussed at length, with the division between chronic and acute cases entering in. Dr. Graves was asked to bring back to the committee a statement of the cost of care for both types of cases. He also said he would like to see better living facilities for the staff of the hospitals so that they might live a more normal life as part of the community. It was felt possibly it might be better to build more smaller hospitals at various locations in the state rather than enlarge the four present hospitals. Next meeting of the committee was set for December 5, at which time the problems will be considered further.

### COMMITTEE ON PUBLIC HEALTH

September 10, 1953

The Committee on Public Health met in the office on Thursday morning, September 10, at 10 a.m. The following were present: Doctors E. A. Larsen, of Centerville, W. D. Paul and C. B. Larson, of Iowa City, J. I. Marker, of Davenport, B. F. Howar, of Webster City, R. H. Heeren and E. G. Zimmerer, of Des Moines, R. H. McBride, of Sioux City, and C. P. Phillips, of Muscatine. Meeting was called to order at 10:25 and minutes were read and approved. Dr. Zimmerer gave a report of what the Cancer Committee had done at its last meeting (to hold six cancer institutes; to continue education through its publications; to try to establish more diagnostic clinics); Dr. Marker reported on the meeting of the Committee on Mental Health (see above); Dr. Paul reported on the meeting of his committee on Geriatrics, saying they didn't know whether the committee was needed, but felt some committee should be available to advise the public since it is pressing the idea; Dr. Larson reported on the work of the Rehabilitation Committee (physical rehabilitation; a survey to find the number needing such help; and cooperative efforts which might be utilized); Dr. Bernard reported for the Committee on Industrial Health; Dr. Heeren told of the meeting his committee had had with representatives of the tuberculosis, heart and infantile paralysis societies; Dr. McBride said the Gamma Globulin committee had not met since April when it set up policies for distribution of gamma globulin; and Dr. Howar explained his committee on rural health was going to help in placing physicians and explaining to different communities why they might not be able to obtain a physician, and it was also stressing the worth of the preceptor program.

A full discussion of each report brought many good ideas into focus. Publicity of the various activities was discussed, and it was felt television and radio programs, the JOURNAL, district meetings, newspaper articles, and the news bulletin might be utilized. Meeting adjourned at 3 p.m.



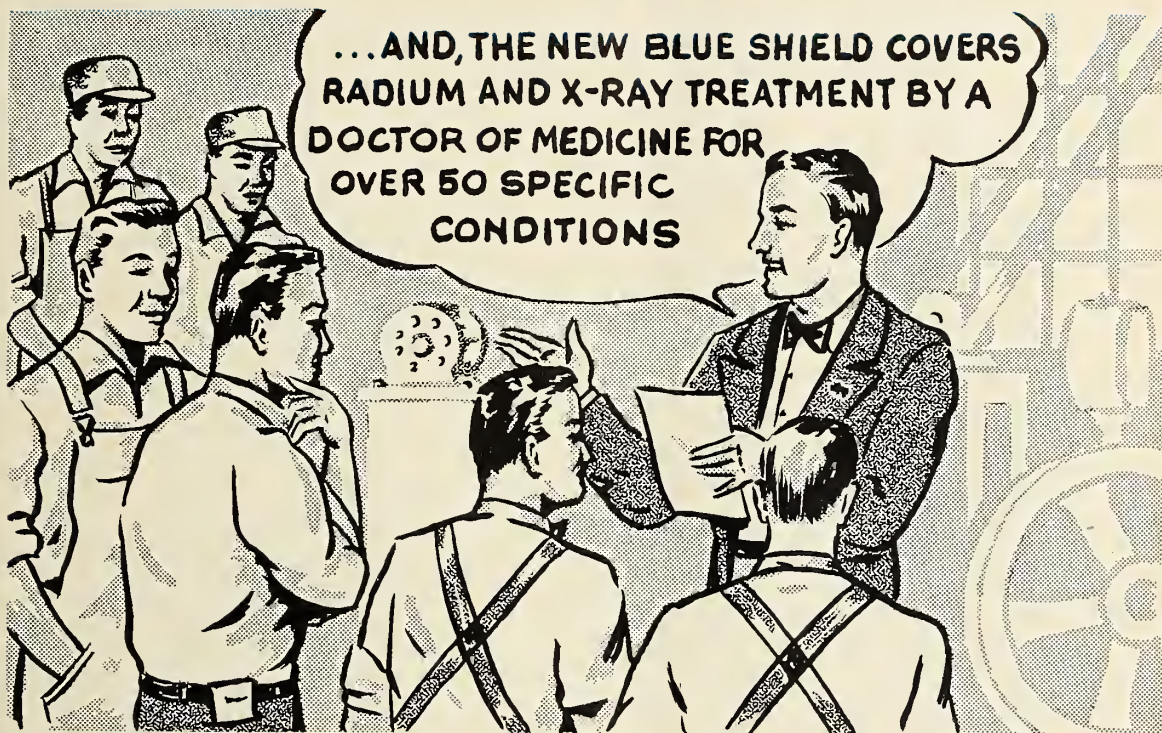
---

BLUE CROSS



BLUE SHIELD

---



#### RADIATION THERAPY

New Blue Shield members and the old members whose coverage has been converted to the new Blue Shield contract are entitled to greater radiation therapy benefits. Under the new plan, a member is entitled to the following radiation therapy services.

An allowance will be made for the treatment of all proven malignancies when radiation therapy is used alone or in conjunction with surgical services. When used in conjunction with surgical services, the maximum allowance will be 50 per cent of the associated surgical service. There are a few exceptions to the 50 per cent of the associated surgical service provision. These exceptions are indicated on page 38 of the new Blue Shield Schedule of Benefits. These added benefits are subject to the full service provision of Blue Shield. Under the old contract, payment for radiation therapy is limited to 7 specific conditions which

are listed on page 16 of the old schedule of benefits.

#### CLOSER LIAISON BETWEEN BLUE SHIELD, COUNTY MEDICAL SOCIETIES, AND INDIVIDUAL PHYSICIANS

Iowa Medical Service (Blue Shield) has requested the Iowa State Medical Society to appoint a local Blue Shield participating physician to serve as a liaison member for each county medical society. The purpose of this broad liaison committee is to bring Blue Shield closer to county medical societies, individual physicians, and the laity. The physicians who are appointed to serve on this committee will be informed on all matters relating to Blue Shield in order for them to pass along the information to their colleagues and to the laity. The field representatives of the Blue Cross-Blue

*(Continued on page 432)*

## *General Manager's Page*

During the past month, most of the committees which are to spearhead the activities of the Society this coming winter have met in the office building and have perfected their plans. Their combined activities constitute an ambitious program, far in excess of any we have had in years.

Do not overlook the fact that these men who are devoting their time and talents to the improvement of the Society are all in active practice. They cannot succeed without the cooperation of the county societies, and of every one of *YOU* who are reading this page. They can succeed with your whole-hearted support. The success of their carefully worked out plans will mean one of the best years we have ever had.

The President, the Trustees, and the Council have met together repeatedly during the summer.

The Preceptor Program seems to be an outstanding success. The first fifty preceptors contacted have requested to remain on the list for next year. Should you wish to be added to next summer's list, please notify the office *at once*.

The television program starts October 2, at 8:00 p.m. It will be a weekly program this year.

Please read the pages which contain the reports of the committees which have met this past month. They contain many of the objectives for the coming year.

KNOW YOUR STATE SOCIETY BETTER

*R. S. Bernard, M.D.*

*General Manager*

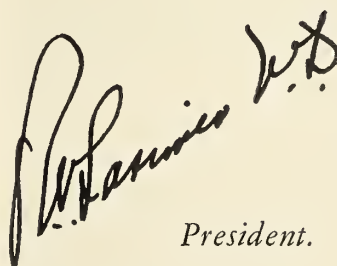


## *President's Page*

This is a request that if you have not already done so, will you please complete and mail the Legislative Report which was sent you. Please mail it to the State Society office in the envelope which was enclosed. Your Officers believe that this form of a referendum is of value both to you and to them and that mistakes which may have been made in the past may be avoided if you will do your part. Last year certain members complained that results of the Blue Cross-Blue Shield questionnaire were not representative. We hope to avoid such misunderstanding by securing a substantially complete poll of our members as to their wishes.

It has been decided that there will be no Scientific Exhibit in the 1954 meeting. Hotel exhibit space is at a premium in Des Moines, and the Roller Rink which we have used for the past three years will not be available. It is planned that in 1955, the new Des Moines Civic Auditorium will be ready for our use.

The demands on the Educational Fund have started with the opening of the school year. We urge that you consider making a contribution to this Fund. It is one way in which we can show our faith in the younger generation.

A handwritten signature in dark ink, appearing to read "R. W. Harrison" followed by a stylized flourish or initials.

*President.*

---

# Iowa Academy of General Practice

*President*—Joseph G. Fellows, M.D., 405½ Douglas Ave., Ames

*President-Elect*—Paul M. Chesnut, M.D., 115 W. Court Ave., Winterset

*Vice President*—Thomas L. Ward, M.D., Arnolds Park

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## POSTGRADUATE COURSE

Hotel Warden  
Fort Dodge

November 12, 1953

Please notice that this November postgraduate course offered by the Iowa Academy of General Practice will be held in Fort Dodge this year, not in Des Moines. We have invited the members of the Webster County Medical Society to be guests at our scientific program and will also be pleased to have them attend the luncheon at noon.

The Hotel Warden has set aside a few rooms to accommodate those attending who may wish to remain overnight. Write the Hotel Warden direct for room reservations, indicating that you are attending the meeting of the Academy of General Practice.

The speakers for the meeting are expected to keep up the usual standard of our courses. Dr. Charles H. Scheifley, Internist, of the Mayo Clinic, will return to give us two more talks. Many of you will remember him from a previous meeting. We have asked him back because so many of those who heard him have requested the privilege of hearing him again. His topics will be "Advances in the Treatment of Congestive Heart Failure" and "The Management of the Patient With Heart Disease in Need of Surgery."

The other scientific speaker will be Dr. Andrew D. Mitchell, Urologist, of Kansas City, Missouri. Dr. Mitchell is on the faculty of the University of Kansas. He will talk on "Prostatism" and "Pediatric Urological Problems."

The luncheon speaker will be announced later.

Set aside November 12 to attend this meeting in Fort Dodge.

---

## SIoux CITY

We hail our members in Sioux City who have organized a local chapter of the Iowa Academy of General Practice in Woodbury County. It was the pleasure of the then President-elect, Dr. Chesnut, and the Secretary to meet with the Sioux City group on August 20 and to discuss with them methods for organization of their chapter and plans for establishing General Practice Sections

in their local hospitals. This is an instance where our Academy can be of real service to the men served by that area. Undoubtedly, there are other areas in the state which are unfortunately not availing themselves of the full benefit of their Academy membership. Remember, our main objective is to be of help to the general practitioners of medicine.

---

## MEMBERSHIP

It is the desire of the Academy of General Practice to enroll the best general practitioners of the country into its ranks. The Iowa Academy is growing steadily, but there are still many fine practitioners in Iowa who do not belong. We wonder if they fail to understand that we have many things to offer them. In fact, this is one organization which exists just for them and we are sure we can be of value to them in many ways.

Why not look around you and personally see to it that the good men in your vicinity have the opportunity of becoming members of our growing organization. Ask a man today.

---

## Blue-Cross Blue Shield

(Continued from page 429)

Shield Physician Relations Department will work through these county contact men. It will be the responsibility of these field men to bring new information to the county medical society and in turn transmit any suggestions to the Blue Shield home office from the profession. The names of the liaison men will be published in this section of the JOURNAL as soon as all of the county appointments have been made. These committee members are being selected by the Councilors of the eleven districts.

---

## BLUE SHIELD MONTHLY STATISTICS

September 1, 1953

Blue Shield Members (estimated) .....	422,139
Claims Processed for Payment .....	11,003
Amount Paid in Claims .....	\$386,940.81



---

# THE JOURNAL BOOK SHELF

---

## BOOKS RECEIVED

**SURGICAL PATHOLOGY**, by *Lauren V. Ackerman, M.D.*, (St. Louis, the C. V. Mosby Company, 1953. \$14.50).

**ADVANCES IN PEDIATRICS**, ed. by *S. Z. Levine, et al.*, Vol. VI. (Chicago, The Year Book Publishers, 1953. \$7.50).

**HOLT PEDIATRICS**, by *L. Emmett Holt, Jr., M.D.*, and *Rustin McIntosh, M.D.*, (New York, Appleton-Century-Crofts, 1953. \$15.00).

**MAY'S MANUAL OF THE DISEASES OF THE EYE, FOR STUDENTS AND GENERAL PRACTITIONERS**, 21st Edition, revised and edited by *Charles A. Perera, M.D.* (Baltimore, the Williams and Wilkins Company, 1953. \$6.00).

**LIVING WITH A DISABILITY**, by *Howard A. Rush, M.D.*, and *Eugene J. Taylor*, in collaboration with *Muriel Zimmerman, O.T.R.*, and *Julia Judson, M.S.* (New York, The Blakiston Co., Inc., 1953. \$3.50).

**SEXUAL BEHAVIOR IN THE HUMAN FEMALE**, by *A. C. Kinsey, W. B. Pomeroy, C. E. Martin, P. H. Gebhard, et al.* (Philadelphia, W. B. Saunders Company, 1953. \$8.00).

## BOOK REVIEWS

Additional Book Reviews on page 441

**ENDOCRINOLOGY IN CLINICAL PRACTICE**, by *Gilbert S. Gordon, M.D.*, and *H. Lissner, M.D.*, (Chicago, The Year Book Publishers, 1953. \$10.50).

This is a well-titled book, for it is so organized and written that practitioners can turn to it for help in almost any endocrinological problem. The very first chapter presents the methods for attacking such cases, including a description of the abnormalities to be found on physical examination and of the ways in which they aid in pinning down the diagnosis.

Each endocrine gland is assigned a separate chapter, each subdivided and written by several authors known to be expert and especially interested in the one specific topic. Clarity of description is notable in this text, an especially important feature in a field that is difficult for most of us to understand. No time is wasted in presentation of conflicting data.

This book should be useful to physicians because it gets right down to facts. It tells how to diagnose and treat—which is what most of us need to know.—*Arthur G. Lueck, M.D.*

**PRACTICAL X-RAY TREATMENT**, by *Arthur W. Erskine*. Fourth Edition, (St. Paul and Minneapolis, The Bruce Publishing Company, 1953. \$4.00).

This excellent manual, as its title indicates, is a practical work on x-ray treatment. In the introduction to this edition, the author prophesies that it is "a fourth and final edition" and states that it was "made under conditions and circumstances so trying that it would have been impossible without the active assistance of my wife." Death came to Arthur W. Erskine on December 10, 1952. Thus this edition is valued not only as a memorial by his friends and colleagues, but also as the record of the philosophy and work of a great man.

There are several changes which make the book more useful than its predecessors. For example, a bibliography has been added at the end of each chap-

ter. A few pages on the history of radiology introduce the first chapter, and additions of paragraphs on newer technics such as grid therapy and rotational therapy bring the book up to date technically. There is additional information on instruments for measuring radiation. To the chapters on "The Cancer Problem and the Radiologist" and "Malignant Conditions" have been added experiences the author had since the previous edition in 1947. For example he cites a "Thanksgiving Dinner" which was attended by "172 patients who have been well five years or more after treatment for known cancer. An additional 650 cured patients had been invited, but were unwilling or unable to attend. The fact that so many have conquered a cruel enemy of mankind by their fortitude and confidence must be encouraging to thousands of others."

The real charm and usefulness of the book have not changed, for here in simple language are laid down the theoretical basis and practical application of x-ray therapy as practiced by the author. It is a dependable guide for practitioners as well as valuable instruction for the student of radiology.—*James T. McMillan, M.D.*

**THE SURGERY OF INFANCY AND CHILDHOOD**, by *Robert E. Gross, M.D.*, (Philadelphia, Saunders, 1953. \$16.00).

Based on the experience of the General Surgical Service of The Children's Hospital, Boston, together with pertinent considerations from current surgical and pediatric literature, this book is an entirely new one. In no sense is it a revision of Ladd and Gross, *Abdominal Surgery of Infancy and Childhood*, published twelve years ago. It is unusual in that most of the chapter bibliographies contain items published in 1952.

Because many of the more recent gains in pediatric surgery have taken the form of advances in pre- and post-operative care, it is this subject that is discussed in considerable detail. One of the most noteworthy points is the conservatism advised in the administration of parenteral fluids, together with the simple composition of solutions employed. Of particular interest in the section on anesthesia is the rational employment of adequate pre-medication which serves to minimize both psychic trauma and the inherent risk of general anesthesia. The use of the nasogastric tube in emptying the stomach preoperatively and technics for preservation of the airway are emphasized.

This text discusses the surgical problems of the neck, thorax and abdomen in children. The diagnosis and management of congenital anomalies, inflammatory and neoplastic conditions in each region are well discussed. Included in the section on thoracic disease are congenital anomalies of the heart and great vessels. Acquired heart disease is not discussed. A substantial portion of the book is devoted to genitourinary disease, with consideration of the management of exstrophy of the bladder and anomalies of the external genitalia.

(Continued on page 441)

---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Publications Chairman*, Dexter, Iowa

*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*President-Elect*—MRS. LESTER R. HEGG, Rock Valley

*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines

*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

## LINES FROM THE PRESIDENT

*Dear County Presidents:*

When you read these lines you will have settled into your fall and winter routine of club work and civic responsibilities. It will be October and your first Auxiliary meeting will have been held. I know that at that meeting you enjoyed getting together again, and I hope that you decided upon an interesting project for the year.

There are many worthy projects from which to choose and you should have little difficulty choosing one which has some special significance or appeal for your particular group. Whichever project you may decide upon, remember to keep in mind our "table of exhibits" for the Annual Meeting.

This "table of exhibits" will be a visual report of the work done by county auxiliaries during the year. We would like to make it possible for our members, and the doctors too, to see at a glance the variety and scope of the projects which we carry on over the state. These "visual reports" may be a simple poster or an elaborate display—your own ingenuity will find a way in which you can demonstrate your achievements for the year. Judges will be appointed and prizes given for the best display. We hope that a table may be reserved at the Fort Des Moines Hotel for this display.

Members at large are eligible to compete for prizes in their counties; getting subscriptions to *TODAY'S HEALTH* magazine is suggested as a project for one or more members in a county.

As a county president, you have a responsibility as well as an honor. You were chosen to represent your group because in you your fellow members have recognized ability and a talent for leadership. Your interest, your enthusiasm are all-important, and will determine the aliveness of your group.

As county president you have an obligation to attend State Board meetings, where auxiliary policies are formulated. The proceedings of these board meetings then should be reported back to your members. The quality of your reporting will be a test of your leadership and will be reflected in the enthusiasm, or lack of it, in your group.

Doctors' wives, even as other women, follow a

county president when she believes in her organization and is filled with energy and enthusiasm for its projects, its activities and the purpose for which it was founded.

Our next Board meeting will be a combined fall and winter meeting; it will be called sometime after Thanksgiving. Will *committee chairmen* and *councilors* please make a note of this and prepare a brief report and/or questions?

Three members of the *nominating committee* will be elected at this meeting. Please be thinking of members whom you would like nominated.

Remember our campaign for new members—"BE A MEMBER, GET A MEMBER."

MRS. EDW. B. HOEVEN

---

## SUMMER EXECUTIVE BOARD MEETING

The Executive Board of the Woman's Auxiliary to the Iowa State Medical Society met in the Conference room of the Medical Society Office on June 30 with 21 members present. Mrs. Edward B. Hoeven, president, presided. Committee reports were heard and plans were discussed for the present year's work.

Mrs. Hoeven, Mrs. Claire H. Mitchell, Mrs. Lonnie A. Coffin and Mrs. Howard W. Smith attended the national meeting in New York, June 1-5.

A resolution favoring the Bricker Resolution was sent from the Iowa Auxiliary to Iowa's congressman, Senator Bricker, and the chairmen of the House and Senate Judiciary Committees.

Contributions to the National Educational Fund have been sent to headquarters, and Mrs. Harold A. Spilman urged all county auxiliaries to support this cause, even though the donations might not be large.

Mrs. Charles H. Flynn, Organization Chairman, is planning district meetings to encourage organization of new auxiliaries. The Massachusetts Medical Society printed leaflets and mailed them to doctors requesting them to assist with organization of auxiliaries. Such a plan might prove helpful in Iowa.

Mrs. Dean H. King, Program Chairman, is preparing a list of projects for submission to county auxiliaries so that each may choose one or more projects best suited to itself and to its community.

Mrs. Noble Irving, Jr., Public Relations Chair-



man, is working for a medical section in a Sunday edition of The Des Moines REGISTER in the fall.

Mrs. Claire H. Mitchell, Yearbook Chairman, reported that sufficient funds were available this year to insure a hard back on the yearbook. This will be a distinct improvement.

Mrs. Hoeven has established a new committee which will have charge of exhibits at the Annual Meeting in the spring. Mrs. Frederic Loomis, the chairman, requests that each county auxiliary have an exhibit chairman. The Medical Society has been asked to appoint judges and to donate a money prize to be awarded to the auxiliary with the most outstanding achievement.

Speakers at this meeting included Dr. Edward H. Files, Public Relations Chairman for the Iowa State Medical Society; Dr. Ransom D. Bernard, Business Manager, and Dr. Frank Coleman, Legislative Chairman.

Dr. Files listed nurse recruitment, the crippled children's program, cancer and polio as fields in which the Auxiliary should participate. He explained the Educational Fund program of the Iowa State Medical Society and requested the Auxiliary to stimulate interest among the doctors and their associates. He stressed the need for following medical legislation closely at all times.

Dr. Bernard reported that the 16 mm kinescopes of the Iowa State Medical Society which have appeared on WOI-TV are available to stations requesting them at any time. He warned that chiropractors are now advertising that they can cure polio and have gone so far as to pay church auxiliaries \$50.00 to mail brochures to that effect. Doctors' wives should be on the look-out for this vicious tactic and call on certified M.D.'s to speak to church groups immediately and to present the truth.

Dr. Coleman gave a résumé of Congressional activity of medical interest.

MRS. KEITH M. CHAPLER  
Publications Chairman

### LET'S TALK ABOUT MEMBERSHIP

*National Woman's Auxiliary Slogan:* Every Eligible Physician's Wife a Member.

*National Goal:* 10 per cent increase in membership.

*State Woman's Auxiliary Goal:* 25 per cent increase in membership.

We have approximately 2,400 physicians in Iowa, but only 807 of their wives are helping to support a very vital part of the State Medical program. Just one third of the wives are members of the Woman's Auxiliary.

As we think back over the years since the Woman's Auxiliary to the American Medical Association was first organized, in 1922, our membership potential has increased each year. Let us continue to make our Auxiliary larger and stronger than it has been, with our first aim to assist the

American Medical Association in attaining its goals of continuing its great progress and success. As we grow larger in numbers, we will grow greater in power, and in so doing will be in a much better position to discourage the believers in some form or other of socialized medicine. We can earn public good will only by constant hard work. Let us, as Auxiliary members, help individually all we can to retain this good will.

As wives of Iowa physicians, we have a great privilege and an honor to share in serving humanity. We should exercise this privilege by giving our all-out support to the one vital organization to which we are eligible for membership—The Woman's Auxiliary to the Iowa State Medical Society.

We should consider it our first obligation to support the Auxiliary and to help share its program with the American Medical Association.

Every physician's wife should consider herself a member of the Organization Committee and personally contact a friend who may not be a member and help secure her membership.

Each year we have become more helpful to the Iowa State Medical Society and to the American Medical Association. It is important that each of us knows the program of our State and National Auxiliaries—it is one of education and service. We must keep informed ourselves, so as to have a part in showing the public what American Medicine has done to give our country the high standards of health and health education which it now holds. We must be active in community service.

So—won't you have a little talk with yourself and decide now that you are going to help the program of nurse recruitment and loan fund, our health-education campaign, and that you will help the voluntary health agencies in their fight against cancer, heart disease, polio, tuberculosis, and diabetes by supporting their financial and health education campaigns? Help by distributing TODAY'S HEALTH and by studying the legislative measures that have to do with the health of our people. Send in your membership dues for becoming a member-at-large, or help your county to organize an auxiliary.

Send dues to: Mrs. H. H. Smead, 3333 Grand Avenue, Des Moines 12, Iowa. Amount: \$3.00.

MRS. CHARLES H. FLYNN  
1st Vice-President, in  
charge of Organization.

### SUGGESTIONS TO TODAY'S HEALTH CHAIRMEN

1. Obtain all material from last year's chairman and read it.
2. Plan your year's work. Plan a monthly schedule and finish it within the month.
3. Have large committees. Have at least one committee member for every 15 members in a

large auxiliary and one committee member for every 8 members in a small one.

4. Read all the material sent to you. Each month you will receive a copy of "Tips and Topics." Read all of it, as it will contain ideas from other auxiliaries which might be used in yours; and further, all letters, contest rules and general information are sent to keep you informed, but you must read them.

5. Work with the Public Relations Committee of your Medical Society. That Committee can help you to reach the doctors.

6. Think in terms of reaching the following: Physicians, dentists, physicians' wives, nurses, technicians, school libraries, hospital libraries, public libraries, P.T.A. health chairmen, women's clubs' health chairmen, young parents, aged persons, health teachers and educators, federal legislators, state legislators, county agents, county home demonstration agents, rural population, voluntary health agencies, voluntary health insurance agencies, county commissioners, city commissioners or councilors.

7. Use other organizations to increase your sales force. Get permission from your Medical Society to allow other organizations to help you sell *TODAY'S HEALTH* and share your bonus with them.

8. Order your materials and subscription blanks now.

9. Use exhibits and conventions. National, regional, state, county conventions or fairs are a good outlet for presenting *TODAY'S HEALTH*. If auxiliary members staff the exhibit, your sales will increase greatly. Credit will go to your auxiliary for subscriptions obtained this way.

10. Contest period from July 1, 1953 to April 30, 1954. Take part in the contest even though the main objective is the promotion of good health education and good public relations.

MRS. RICHARD F. STOVER, *Chairman*  
*National TODAY'S HEALTH Committee.*

### WHAT DO YOU THINK?

For many years...as a Doctor's wife,  
I've carried good-will, instead of a knife,  
I've weathered the days of storm and strife,  
And helped my Doctor live a good life.  
I've answered the phone, night and day,  
Learned to spot patients who wouldn't pay,  
But I gave him the calls, anyway  
And developed a theory of: "Come what may."  
I've struggled through home-work, washed behind  
ears,  
Instead of boos...I've handed out cheers,  
Marched them to the wood-shed, then calmed  
their fears,  
Made them think they were Mom's little dears!  
I've watched the kids grow up, and tied their ties,  
Accepted as truth what I knew were lies,  
Saw them off to war with a glint in their eyes  
As my heart carried their battle cries.

At a quarter of five, I've heard the clock ring,  
I wanted to weep...but I made myself sing,  
I've sat in a boat and felt the insects sting,  
So the doctor could put three perch on a string.

Now at my age of life there isn't much time,  
And my chances of romance aren't worth a dime  
My figure is a bit on the heavy line  
And I have no bangs...they're Mamie's...not  
mine.

What am I doing?...well, I'm now doing my best  
To cover our state from East to West,  
I'm *TODAY'S HEALTH* chairman, and I will not rest  
'Til I'm "*OVER THE TOP*"...and over the crest!  
Yes, I'm tired of working, but I can't say nay  
Though my lips are thin and my hair is gray,  
I've a job to do...and night and day  
I'll keep on working and plugging away.  
And as I work I look for neither beam nor mote...  
I give my energy...instead of my coat,  
Do you think St. Peter would take much note  
If I slipped and sowed just *ONE* wild oat?

EVELYN L. SHAVER  
*Former TODAY'S HEALTH Chairman*  
*Florida Medical Auxiliary.*

## SPEAKERS' BUREAU SCHEDULES

### RADIO

WSUI—IOWA CITY

Tuesday at 11:45 a. m.

"PANORAMA OF RESEARCH"

October 6 .....	Industrial Medicine
October 13 .....	Communicable Diseases
October 20 .....	Cancer
October 27 .....	Anesthesia

### WOI—AMES

Thursday at 11:15 a. m.

"THE STORY OF SURGERY"

October 1 .....	Neurological and Brain Surgery
October 8 .....	Surgery and Cancer
October 15 .....	Plastic Surgery
October 22 .....	Surgery in Old Age
October 29 .....	Surgery of the Thyroid Gland

### TELEVISION

WOI-TV—Fridays at 8:00 p.m.

October 2 .....	Polio
October 9 .....	Immunization
October 16 .....	Diet
October 23 .....	Neuroses
October 30 .....	Your Hospital Bill



# STATE DEPARTMENT OF HEALTH

*Edmund G. Zimmerer*  
COMMISSIONER

## SALMONELLOSIS OUTBREAK IN TWO IOWA COUNTIES

On June 13 a county organization served a picnic dinner to a large number of people. Estimates of the size of the crowd from two adjacent Iowa counties varied from 1,500 to 2,000. Most of them ate the served picnic dinner. Some of the items included on the menu were baked ham, potato salad, baked beans, cottage cheese, ice cream and pie. Fifty hams were served, 500 pounds of potatoes and one crate of eggs were used in the potato salad. The dinner was served from 11:30 a.m. to 1:15 p.m. Plans for refrigerating the food in its various stages of preparation before the picnic were well thought out, but it appears that somewhere in the potato salad's preparation and handling, infection entered, found a good culture medium with proper growth temperatures and flourished.

Onset of illness began as early as 6 to 7 hours after the picnic dinner and ranged to 17 days later with a median of  $2\frac{1}{2}$  days in 30 patients closely questioned. All had eaten potato salad. Those that ate most became the sickest and had the shortest incubation periods. Of 24 persons not sick only 8 had eaten potato salad. These 8 persons all stated they had eaten only a small amount of the potato salad. The few patients with incubation periods of more than four days may very well have been secondary to other early cases in the same family. One 77 year old person died. While few cases were hospitalized, three were sick enough to require a 10 to 11 day stay in the hospital. Illness in others on whom histories were obtained was comparatively mild.

The local hospital laboratories and our State Hygienic Laboratories isolated two organisms. From the fatal case *Salmonella californica* was isolated. *Salmonella enteritidis* was obtained from two other cases. While investigation was made late and no foods could be examined, food histories give statistically significant correlation of illness only with eating of potato salad.

Iowa temperatures were high during mid-June. Effort was made to keep materials refrigerated by icing or placing them in large ice boxes. The potato salad makers were thoughtful enough to store the partially completed product over night in refrigerators in gallon-sized containers. Bacteria can grow rapidly, however, in good culture

medium in summer. It may be that the hour or two necessary to cool a gallon of potato salad from room temperature to proper storage temperature was all that was needed.

## MORBIDITY REPORT

Disease	Aug. 1953	July 1953	Aug. 1952	Most cases reported from these counties:
Brucellosis ....	43	45	50	Clay 3, others scattered 2 or 1 to a county
Chickenpox ....	80	116	20	Boone, Dubuque
Diphtheria ....	1	0	2	Chickasaw
Infectious hepatitis ....	109	112	16	Cerro Gordo, Des Moines, Polk, Pottawattamie
Measles .....	96	412	41	Dubuque, Greene, Osceola
Meningococcus Mening. ....	4	1	3	Linn 1, Polk 1, Scott 2
Mumps .....	111	198	42	Boone, Dubuque, Story
Poliomyelitis ..	249	59	1260	Story 11, Woodbury 11, Black Hawk 10, Mitchell 13, Polk 36 (66 counties have reported cases in August) 76 counties have reported cases thus far in 1953 65 paralytic; 135 non-paralytic; 49 unspec.
Rabies in Animals .....	10	12	13	Hamilton 2, Marshall 2, others scattered 1 to a county
Scarlet Fever..	8	10	2	Scattered 1 to a county
Smallpox .....	0	0	0	.....
Typhoid Fever..	3	1	4	Butler, Cherokee, Polk
Whooping Cough .....	22	17	11	Greene, Polk, Pottawattamie
Tuberculosis ..	71	55	46	For the state
Gonorrhea ....	58	53	49	For the state
Syphilis .....	160	162	150	For the state
Psittacosis ....	1	3	..	Muscatine
Salmonellosis ..	31	2	..	Carroll & Greene
Encephalitis ...	1	2	..	Linn
Malaria .....	3	0	18	Iowa, Monona, Polk 1 each, all veterans in foreign service

Iowa physicians who read papers at the pediatrics conference at SUI, on September 16 and 17, included **Dr. Madeline M. Donelly**, chief of the Division of Maternal and Child Health, **Dr. Edmund G. Zimmerer**, Commissioner, of the State Department of Health, and **Dr. Lee F. Hill**, of Des Moines. The program was a memorial to the late **Dr. Philip C. Jeans**, head of the Department of Pediatrics at the University until July, 1952, and brought together former students of his who now are prominent physicians and researchers in various sections of the country.

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Wapello

Dr. Albert Usher, a pathologist of Kansas City, Missouri, addressed the Wapello County Medical Society and guests from surrounding counties on "Clinical and Laboratory Approach to Thyroid Gland Disease" at Ottumwa on August 31.

---

### Scott

At the first Scott County Medical Society meeting following the summer recess, on August 31 Dr. John R. Carter, associate professor of pathology at SUI spoke on "Clinical Assay of Blood Coagulation Factors and Trends in Blood Clotting Research."

---

### Dubuque

Leslie G. FitzGerald, D.D.S., of Rolling Ridge, president of the American Dental Association, was guest of honor at a banquet meeting of the Du-

buque County Medical Society, on September 8. The address of the evening, "Legislative Matters of Interest to the Health Professions," was delivered by Francis J. Garvey, attorney and secretary of the legislative council of the American Dental Association. Other guests included James E. Barney, D.D.S., of Davenport, president-elect of the Iowa State Dental Society; Harry Wilson, D.D.S., of Des Moines, secretary of the State Dental Society; Dean William J. Simon, of the College of Dentistry at SUI; the members of the Dubuque County Dental Society; and dentists from other parts of Iowa, from Illinois and from Wisconsin. Dr. FitzGerald is an associate member of the Dubuque County Medical Society.

---

### Black Hawk

Dr. John R. Carter, associate professor of pathology at SUI, spoke on the topic "Newer Aspects of Blood Clotting" at the dinner meeting of the Black Hawk County Medical Society, at the Elk's Club in Waterloo, on September 15.

## WAPELLO COUNTY MEDICAL SOCIETY INDIANS



This team participated in "Teen League" baseball at Ottumwa, this past summer. The program provided baseball for boys 13, 14 and 15 years old, the age group in between the "Little League" and "American Legion Junior Baseball." The sponsor's only role was to pay the bill, for the Teen League organization conducted the program and kept the records. Manager of the "Indians" is Lowell Carroll, a machinist at John Deere.



## DEATHS

**Dr. Alfred Anthony Hoffman**, 62, of Waterloo, died in his sleep on August 19, at Pequot Lakes, Minnesota, where he was spending a vacation.

---

**Dr. Ira D. Kaufman**, 78, who practiced medicine for 30 years at State Center and afterwards practiced at Marshalltown, died in Long Beach, California, on August 23. He had failed to recover after undergoing major surgery last January.

---

**Dr. Arnold O. Wirsig**, 69, of Shenandoah, died at the Hand Community Hospital there, on August 22, following a heart attack.

---

**Dr. William Henry Donovan**, 69, an Iowa City surgeon, died at Mercy Hospital there, on September 1, of acute endocarditis.

---

**Dr. Arthur D. Woods**, 72, of State Center, died in a hospital at Billings, Montana, on August 17, following a heart attack. Dr. Woods and his wife were on their way to their summer home at Silver Gate, Montana.

---

**Dr. Joseph O. Trimbo**, 80, a physician who practiced at Winfield and at Chelsea, died in Cedar Rapids on August 18, of a heart ailment. He had been in poor health for some time.

---

**Dr. Lawrence F. Sullivan**, 73, who had practiced in Marengo and Donahue until illness forced his retirement a year ago, died on August 10 at Mercy Hospital, in Davenport.

---

**Dr. Harry Maurice Levin**, 57, a Waterloo obstetrician, died at his home there, on August 13, of a heart ailment.

---

**Dr. Alva Charles Norton**, 81, a physician at Rockwell City for more than 50 years, died on August 18, at Lutheran Hospital, in Fort Dodge.

---

**Dr. Walter Eugene Baker**, 77, of Des Moines, a retired general practitioner, died at his home on August 29. Though Dr. Baker had had Parkinson's disease for several years, his death was precipitated by lobar pneumonia. He was a life member of the Iowa State Medical Society.

## PERSONALS

**Dr. Burns M. Byram**, of Cedar Rapids, is shortly to be associated with **Dr. G. W. Howe** in general practice at Marengo.

---

**Dr. C. I. Fox**, who practiced for many years at Pella, has opened an office in Elma. When a young man can be found for the community, Dr. Fox has said that he will either relinquish the practice or share it, as the newcomer chooses.

---

**Dr. George G. Dixon** has joined the staff of the V.A. psychopathic hospital at Knoxville as assistant chief of the physical medicine rehabilitation service. He has been a private practitioner in Brooklyn, New York, for thirty years.

---

**Dr. Walter L. Bierring**, former State Health Commissioner, attended the International Conference on Medical Education, in London, August 21-29.

---

Following a tour of duty with the USPHS, during which he worked at Hot Springs and Little Rock, Arkansas, **Dr. Charles F. Watson** has announced his intention of opening an office for general practice in Fairfield.

---

**Dr. John Sear**, a 1952 graduate of the College of Medicine at SUI has begun general practice in Alden following his year of internship at City Hospital, in Cleveland, Ohio.

---

On September 1, **Dr. Harold C. Hallberg** opened an office for general practice in Oelwein. During the past year he has been associated with **Dr. H. M. Andersen**, at Strawberry Point.

---

Following the completion of his internship at Detroit Receiving Hospital, **Dr. Max W. Safley** has joined **Dr. H. H. Perman** in general practice at Forest City. He is a graduate of Drake and of the College of Medicine at SUI.

---

On September 7, **Dr. L. F. Crain** and his wife, **Dr. M. M. Crain**, were honor guests at a community dinner at Deep River, where they have practiced medicine for 50 years.

---

**Dr. Don N. Orelup**, who, since his graduation from the College of Medicine at SUI in 1950, has served two years with the Air Corps in addition

to his internship, has begun general practice in Ottumwa.

---

Returning to practice once more in Iowa, **Dr. Ralph DeCicco**, lately of Crowell, Texas, has opened an office in McGregor. He replaces **Dr. D. W. Pfeiffer**, who has left his practice temporarily for service with the Army as a first lieutenant.

---

**Dr. Lynn E. Frink**, and **Dr. John R. Jaquis**, recent graduates of the College of Medicine at SUI, have located together at Reinbeck. They intend also to open an office in Dike.

---

The Coast Guard has recalled **Dr. Edward A. Rogers, Jr.**, of Anamosa, to service at Seattle, where he is to join the U. S. Marine Hospital's surgical staff.

---

**Dr. Jack N. Morgan**, **Dr. James H. Dunlevy** and **Dr. Chris L. Paulcheff**, graduates of the Washington University School of Medicine, at St. Louis, Missouri, have formed an association for general practice in Fairfield.

---

**Dean Norman Nelson**, of the College of Medicine at SUI, has announced the appointment of a six-member committee to make plans for a new research wing for University Hospitals.

---

**Dr. W. H. Griffith**, a diplomate of the American Board of Internal Medicine, and **Dr. C. F. Gutch**, both 1943 graduates of the College of Medicine at SUI, have opened an office together in Clinton, as internists. Both men have recently been members of the staff of the V.A. hospital in Lincoln, Nebraska.

---

On September 1, **Dr. Scott Linge** began general practice at Fayette. He is a graduate of the College of Medicine at SUI and recently completed his internship at General Hospital in Tacoma, Washington.

---

The Cogley Clinic, at Council Bluffs, has announced the association of **Dr. Darwin L. Moriarty**. He is a graduate of Creighton University and did his internship at Mercy Hospital, in Council Bluffs.

---

**Dr. Milo A. Mochal**, who recently completed residency in obstetrics and gynecology at SUI, his

alma mater, joined the staff of the Decorah Clinic on September 1.

---

Following a four-year residency in surgery at SUI, **Dr. Glenn M. Skallerup** has begun private practice of his specialty in Red Oak.

---

**Dr. D. W. Dohnalek**, a 1949 graduate of the College of Medicine at SUI, has begun general practice in Waukon. He practiced previously in West Union.

---

Following his discharge from the Navy, **Dr. Robert R. Horton** reopened his practice in Algona on September 1.

---

**Dr. Joseph A. Buckwalter**, associate in surgery at SUI, attended the First World Conference on Medical Education, in London, August 22-29.

---

**Dr. William C. Eller**, of Waterloo, has left for Graz, Austria, where he is to study gynecological surgery under Dr. Ernst Navratil.

---

**Dr. David G. Gilbertson**, an obstetrician and gynecologist formerly associated with **Dr. A. D. James** in Des Moines, has joined the staff of Park Hospital, Mason City.

---

**Dr. L. J. Meduna**, professor of psychiatry at the University of Illinois, lectured and gave a demonstration on his carbon dioxide inhalation treatment of the neuroses to the medical staff of the Clarinda Mental Health Institute and doctors from the surrounding area, at Clarinda on August 22. **Dr. Charles C. Graves, Jr.**, of the State Board of Control office, and doctors from the state institutions at Mt. Pleasant, Cherokee and Glenwood attended.

---

**Dr. W. S. Gladstone** and **Dr. W. K. Tice** resumed their residencies in radiology at Iowa City, following tours of duty with the Armed Forces.

---

The National Foundation for Infantile Paralysis is offering a limited number of postdoctoral fellowships to candidates interested in research and teaching in medicine and allied sciences. Annual stipends are \$3,600-\$7,000 for from one to five years, with marital and dependency status given consideration. Complete information can be secured from the Foundation's New York City headquarters.



## Book Reviews

(Continued from page 433)

Many surgeons will undoubtedly differ with the author in certain details of technic and management. Some will feel that resection and primary anastomosis is preferable to resection and the use of a Mikulicz enterostomy in the treatment of intestinal atresia. Others may feel early operation is safer than the more conservative watchful waiting in the treatment of foreign bodies in the gastro-intestinal tract. The use of a rib strut in the repair of pectus excavatum is omitted entirely. In many instances it seems unwise to assume the risk of general anesthesia in the sigmoidoscopic examination of the pediatric patient. The use of a flaxseed poultice in primary peritonitis is surely an anachronistic adjuvant.

Except for controversial points in technical detail, this text is a splendid one. The organization is logical, important details of the history and physical examination are emphasized, and special diagnostic procedures of value in certain conditions are well described. Plates of pathological specimens and illustrative radiographs are well reproduced and technically excellent. Of particular interest are tabulations of the results of treatment obtained at the author's hospital. The book is recommended without qualification to the surgeon who treats children, the pediatrician, and the general practitioner. Possibly its greatest value lies in the fact that it enables one to broaden his differential diagnosis in the child who presents what appears to be a surgical problem.—*Gordon Manson, M.D.*

ON BURNS, compiled and edited by *Nathan A. Womack, M.D.*, (Springfield, Ill., Charles C Thomas, 1953. \$5.50).

This 178-page book contains the papers delivered in a Symposium on Burns held at Iowa City in 1951. The State Advisory Committee for Civil Defense, feeling that a more lucid understanding of the principles of treatment should precede the stock-piling of medical materials for Civil Defense, suggested burns, first, because this subject also has wide daily civilian application.

The chapter by Dr. Truman Blocker on the open treatment of acute burns has special interest. This type of treatment, generally speaking, has been used little in this country. It offers great ease of handling burns, not only from the doctor's standpoint, but more importantly from the patient's standpoint. It minimizes the destruction of tissue not destroyed by the burn, as contrasted with the marked destruction of this tissue by certain other methods of treatment.

James Barrett Brown, M.D., the internationally famous plastic surgeon who served as consultant to the British Army on burns during World War II, has two chapters, one on The Early Care and Grafting of Acute Burns, the other on Treatment of the Late Burn Wound and Its Contractures. He portrays the important definitive treatment for these conditions in a most lucid and clear manner. He includes very little theory and considers mainly the practical aspects of treatment with which every physician treating burns must deal.

The book also contains chapters on Results of Treatment of Burns at the University of Iowa Hos-

pitals, Pain and Its Treatment, The Problem of Infection, Enzyme Debridement of the Burn Eschar, Burn Shock, The Plasma Substitutes, The Adrenal Cortex Function in Severe Burns, The Nutrition of the Burned Patient, and Delayed Coverage of the Burn Wound and Joint Motion. All of these subjects hold current interest in the general treatment of burns. Knowledge of them is vital to the intelligent handling of thermal injuries.

Ordinarily the average physician sees relatively few severe or moderately severe burns. In few conditions will adequate knowledge so greatly reduce the length of hospital stay and morbidity. Catastrophe of most any kind produces large numbers of burned people whom we may be called upon to treat immediately. I should like to recommend this book to you very highly because it contains the knowledge so necessary to cope with this vital problem.—*Joseph B. Priestley, M.D.*

## BROADCASTERS PROMISE COOPERATION

Acting upon instructions given them by the House of Delegates, the officers of the American Medical Association have conferred with the heads of the National Association of Radio and Television Broadcasters and have been assured of their hearty cooperation in curbing televised advertising in which the public is given the impression that physicians are either endorsing or actually peddling proprietary medicines.

In promising their help, the Broadcasters called the A.M.A.'s attention to the fact that the Television Code contains the following statement: "When dramatized advertising material involves statements by doctors, dentists, nurses or other professional people, the material should be presented by members of such profession reciting actual experience or it should be made apparent from the presentation itself that the portrayal is dramatized."

Every physician is invited to call the attention of the Public Relations Department of the A.M.A. to any televised sequence that appears to be in violation of the above-mentioned section of the Television Code, so that the Department, in turn, can take it up with the N.A.R.T.B.

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of September 10, 1953

Ackerman, J. H., Clarksville (Atlanta, Georgia) . . . . .	Sr. Asst. Surgeon, U.S.P.H.S.
Arnold, K. E., Sioux City (Port Hueneme, Calif.) . . . . .	Lt. (j.g.), U.S.N.R.
Bartholomew, R. D., Lake City (Walnut Creek, Calif.) . . . . .	Lt. (j.g.), U.S.N.R.
Benton, J. S., Des Moines . . . . .	1st Lt., A.U.S.
Bogle, W. C., Marion (Great Lakes, Ill.) . . . . .	Lt., U.S.N.R.
Braateli, N. T., Des Moines (Rock Island, Ill.) . . . . .	1st Lt., U.S.A.F.

Brennan, J. E., Des Moines (Camp Pendleton, Calif.)	.....Lt., U.S.N.R.
Broman, J. A., Maquoketa (Ft. Sill, Okla.)	.....Capt., A.U.S.
Buzan, E. F., Des Moines (Yuma, Arizona)	
Christensen, J. R., Eagle Grove (Battle Creek, Mich.)	.....Lt., A.U.S.
Cline, H. L., Iowa City (Denver, Colorado)	.....A.U.S.
Couchman, P. G., Des Moines (Battle Creek, Mich.)	.....1st Lt., U.S.A.F.
Daut, R. V., Davenport (Westover Field, Massachusetts)	.....Capt., U.S.A.F.
Davidson, M. C., Emmetsburg (El Paso, Tex.)	.....Col., A.U.S.
Donahoe, J. F., Fort Dodge (Des Moines, Iowa)	.....1st Lt., A.U.S.
Dooley, J. E., Fort Dodge (Pleasanton, Calif.)	.....Capt., U.S.A.F.
Dunseth, W. R., Kellogg (APO San Francisco, Calif.)	.....USAF
Eckhardt, R. D., Iowa City (Portsmouth, Virginia)	.....Lt., U.S.N.R.
Field, C. A., Cresco (Ft. Sam Houston, Tex.)	.....Capt., A.U.S.
Foley, W. E., Jr., Davenport (Phoenix, Arizona)	.....Capt., U.S.A.F.
Garred, J. L., Whiting (San Diego, Calif.)	.....U.S.N.R.
Garred, W. P., Dow City	
Giles, F. E., Cresco (Ft. Sam Houston, Tex.)	.....A.U.S.
Godbey, M. E., Mt. Pleasant (Gunter A.F.B., Montgomery, Ala)	1st Lt., U.S.A.F.
Haskell, J. G., Reinbeck	
Hickman, D. M., Indianola (Alexandria, Louisiana)	.....1st Lt., U.S.A.F.
Isham, R. B., Osage	.....U.S.N.R.
Iwen, G. W., Iowa City	
Jenkins, H. F., Ogden (Randolph A.F.B., Texas)	.....U.S.A.F.
Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas)	.....Capt., U.S.A.F.
Johnson, M. H., Iowa City (APO New York, N. Y.)	.....Capt., A.U.S.
Johnson, W. A., Emmetsburg (Corona, California)	.....Lt., U.S.N.R.
Judiesch, K. J., Iowa City (Ft. Sam Houston, Tex.)	.....1st Lt., A.U.S.
Kenney, B. E., Woodbine (Raleigh, North Carolina)	.....1st Lt., U.S.A.F.
Kruse, R. H., Conrad (Pearl Harbor, T. H.)	.....Lt., U.S.N.R.
Kuehn, W. G., Clarinda (A.P.O. San Francisco, Calif.)	.....Lt., U.S.N.R.
Kuehnle, G. R., Dubuque (Baton Rouge, La.)	
Kurth, R. J., Waterloo (Minneapolis, Minn.)	.....Capt., U.S.A.F.
Larson, Erling, Jr., Des Moines (Indianapolis, Indiana)	.....Lt. (jg) U.S.N.R.
Leiter, E. R. K., Des Moines (Bangor, Me.)	.....Capt., U.S.A.F.
McMahon, A. E., Jr., Des Moines (Omaha, Nebraska)	.....U.S.N.R.
Martins, J. K., Waterloo (Bayonne, N. J.)	.....Lt., U.S.N.R.
Maxwell, J. R., Iowa City (Ft. Sam Houston, Tex.)	.....1st Lt., A.U.S.
Middleton, W. H., Central City (Bethesda, Maryland)	.....U.S.N.R.
Montgomery, A. E., Jefferson (Phoenixville, Pa.)	.....Lt. Col., A.U.S.
Nielsen, G. E., Des Moines (Topeka, Kan.)	.....1st Lt., U.S.A.F.
Paul, R. E., Des Moines (FPO San Francisco, Calif.)	.....Lt., U.S.N.R.
Peterson, L. G., Holstein (Camp Kilmer, N. J.)	.....A.U.S.
Pfaff, R. A., Dubuque (Camp Pendleton, Calif.)	.....Lt., U.S.N.R.
Prendergast, L. J., Iowa City (Oceanside, California)	.....U.S.N.R.
Province, Wm., Jr., Dubuque (Long Beach, Calif.)	.....U.S.N.R.
Puntenney, A. W., Boone (Portsmouth, Va.)	.....Lt., U.S.N.R.
Rhode, M. C., Iowa City (Philadelphia, Pa.)	
Saunders, R. J., Colfax (APO San Francisco, Calif.)	.....1st Lt., U.S.A.F.
Schlichtemeier, E. O., Peterson (FPO San Francisco, Calif.)	.....Lt., U.S.N.R.
Shaffer, F. J., Iowa City	.....Col., U.S.A.F.
Shuldburg, Arthur, Des Moines (Gunter AFB, Ala.)	.....1st Lt., U.S.A.F.
Sinton, D. W., Iowa City (Colorado Springs, Colorado)	.....A.U.S.
Smith, C. B., Iowa City (Bowling Green, Ky.)	.....Capt., A.U.S.
Sphonheimer, L. N., Donnellson (Mountain Home AFB, Idaho)	.....1st Lt., U.S.A.F.
Stivers, T. W., Des Moines (Hutchinson, Kansas)	.....Lt. (jg) U.S.N.R.
Stutsman, R. E., Washington (Miami, Fla.)	.....Cmdr., U.S.N.
Sugioka, Kenneth, Iowa City (Long Island, N. Y.)	.....A.U.S.
Theilen, E. O., Iowa City (Washington, D. C.)	.....Capt. A.U.S.
Thompson, J. W., Ames (Camp Breckinridge, Kentucky)	.....Capt., A.U.S.
Thornton, F. E., Des Moines (Portsmouth, Va.)	.....Lt. Cmdr., U.S.N.R.
Troxel, J. F., Cedar Rapids (APO New York, N. Y.)	.....1st Lt., A.U.S.
Uchiyama, J. K., Des Moines (Wichita Falls, Texas)	.....1st Lt., U.S.A.F.
Vincent, J. F., Fort Dodge (Langley A.F.B., Va.)	.....Capt., U.S.A.F.
von Lackum, L. S., Oelwein (Great Lakes, Ill.)	.....Lt., U.S.N.R.
Voorhees, P. H., Ottumwa (Jamaica, N. Y.)	.....U.S.N.R.
Wall, J. M., Boone (Gunter AFB, Ala.)	.....1st Lt., U.S.A.F.
Walker, J. R., Waterloo (Bethesda, Maryland)	.....Lt., U.S.N.R.
Walston, J. H., Graettinger (Lackland A.F.B., Texas)	.....1st Lt., U.S.A.F.
Westly, J. S., Mason City (Norfolk, Virginia)	.....Lt., U.S.N.R.
Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.)	.....1st Lt., A.U.S.
*Wilkins, D. S., Iowa City (APO San Francisco, Calif.)	.....Capt., A.U.S.
Witte, H. J., Marathon (San Francisco, Calif.)	.....Lt. Col., A.U.S.
Young, R. A., Clarion (Ft. Sam Houston, Tex.)	.....Capt., A.U.S.
Zeilenga, R. H., Orange City (Madison, Wisc.)	.....1st Lt., U.S.A.F.

\* Deceased



# *The* JOURNAL *of the* Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, NOVEMBER, 1953

No. 11

## A SYMPOSIUM ON THORACIC CARDIOVASCULAR SURGERY AT THE STATE UNIVERSITY OF IOWA

### I. MEDICAL AND PHYSIOLOGICAL EVALUATION

JAMES W. CULBERTSON, M.D.

AND

GEORGE N. BEDELL, M.D.\*

IOWA CITY, IOWA

ONE OF THE MOST brilliant chapters of progress in the history of medicine has been inscribed during the past decade and a half by the clinical successes of modern pioneers in reconstructive cardiovascular surgery. Predictions and thoughtful speculative proposals have been fulfilled. Remarkable feats of technical skill have been developed into standard operative procedures, the results of which have brought clinical salvation and physiological well being to many patients who in a former era would have been destined throughout their foreshortened life span to remain cardiovascular cripples.

To the enterprising, courageous, imaginative and ingenious surgeons in the vanguard of this exciting movement belongs the major share of honor for the practical realization of current routine clinical accomplishment in the field. It befell them, perforce, to bear the responsibility for the experimental trials which led to the initial clinical successes of all of the presently accepted operative procedures. Surgical research laboratories equipped for judicious and humane animal experimentation contributed significantly to the development of a variety of suitable manipulative techniques and to the biological testing of many materials suggested and appraised for their usefulness in procedures of plastic repair of living tissues. Even war, with its host of miserable attributes, in some ways has fostered the development of appropriate and effective cardiovascular surgical techniques.

\* Associate Professor and Associate, respectively, in the Department of Internal Medicine and the Cardiovascular Laboratory, College of Medicine, State University of Iowa.

The Cardiovascular Laboratory is supported in part by funds from the Iowa and the American Heart Associations, the Iowa State Department of Health and the National Heart Institute of the United States Public Health Service.

The thoracic surgeon is peculiarly indebted to and dependent upon his most intimate colleague, the anesthesiologist. The fact that major intrathoracic surgery is commonplace today is largely a tribute to the tremendous advances in the applied pharmacology of this special field in recent years. The anesthesiologist not only has learned to serve as temporary master of external respiration and perception of pain—promoting and regulating one, while inhibiting the other—but has made himself invaluable in maintaining adequate blood volume and a healthful balance of water and electrolytes.

Recent developments of importance in thoracic cardiovascular disease have not been restricted to methods of therapy alone. The physician's chances of arriving at a precise diagnosis of the patient's condition and an estimate of his outlook have been enhanced greatly by the increased acumen and assurance of the radiologist. He possesses improved roentgenographic equipment, more sensitive film, and brighter fluoroscopic screens. He has developed angiocardiology, with safer contrast media and more effective rapid exposure devices, to a new high level of excellence.<sup>1, 2</sup> Perhaps most important is the stimulus arising from the fact that differential diagnostic questions no longer are merely of academic interest but often are crucially important in the decision for or against evaluative thoracotomy with a view toward reparative surgery.

The clinical physiologist likewise has found an important and satisfying role in the accurate preoperative diagnosis and evaluation of patients and in the objective measurement of postoperative results in terms of altered physiological forces and hemodynamic relationships. Moreover, clinical physiological thought and research on some of the problems of congenital and acquired heart disease have served as points of departure for several of the technical therapeutic developments of importance. It is curiously true that the perfection of a technique provided the impetus for much of the most useful current investigative work. The first reported human cardiac catheterization was performed in 1929 by a young German surgeon, Werner Forssmann, on himself.<sup>3</sup> When the meth-

od failed to prove useful as an aid to contrast angiocardiology, it was discarded. However, Klein<sup>4</sup> had demonstrated in Germany that the cardiac catheter could be used for measuring the minute volume output of the heart by direct application of the Fick principle in man. It was for this purpose that the procedure was introduced into the United States in 1941 by Cournand.<sup>5, 6</sup> In 1945 cardiac catheterization was applied by Brannon and associates<sup>7</sup> to the diagnosis and study of atrial septal defect. Baldwin and associates<sup>8</sup> investigated ventricular septal defect in 1946. In 1947 reports appeared from a number of laboratories in the United States, England and Canada on these and other congenital anomalies.<sup>9</sup> Since then the use of the cardiac catheter has become routine in many clinical physiology laboratories for the study of patients with congenital cardiovascular defects (Fig. 1). Moreover, the method has been exceedingly valuable in the physiological and diagnostic investigation of a number of acquired cardiovascular disorders.

It must be evident from the foregoing discussion that recent advances in thoracic cardiovascular surgery have been facilitated by con-

tributions from a variety of specialists in both clinical and non-clinical scientific disciplines. It also is true that the most notable advances have been made in medical centers where such collaborative endeavor was thriving. The best authenticated series of clinical successes have been accumulated under comparable conditions of collaborative teamwork. Consideration of these facts has led to the natural development of the present highly successful cooperative program at the State University of Iowa Hospitals. All of the specialties described above are available and active in the general project, in both its investigative and therapeutic phases. There are two effective focal points for the interests and activities of the entire professional and scientific group: (a) the Chest Clinic, begun in 1949, which meets every Friday afternoon under the joint sponsorship of the Department of Internal Medicine and the Division of Thoracic Surgery of the Department of General Surgery and serves as a clinical forum for problems of mutual interest and (b) the Cardiovascular Laboratory, opened in 1951, in which an assortment of clinical physiological techniques are available for special di-

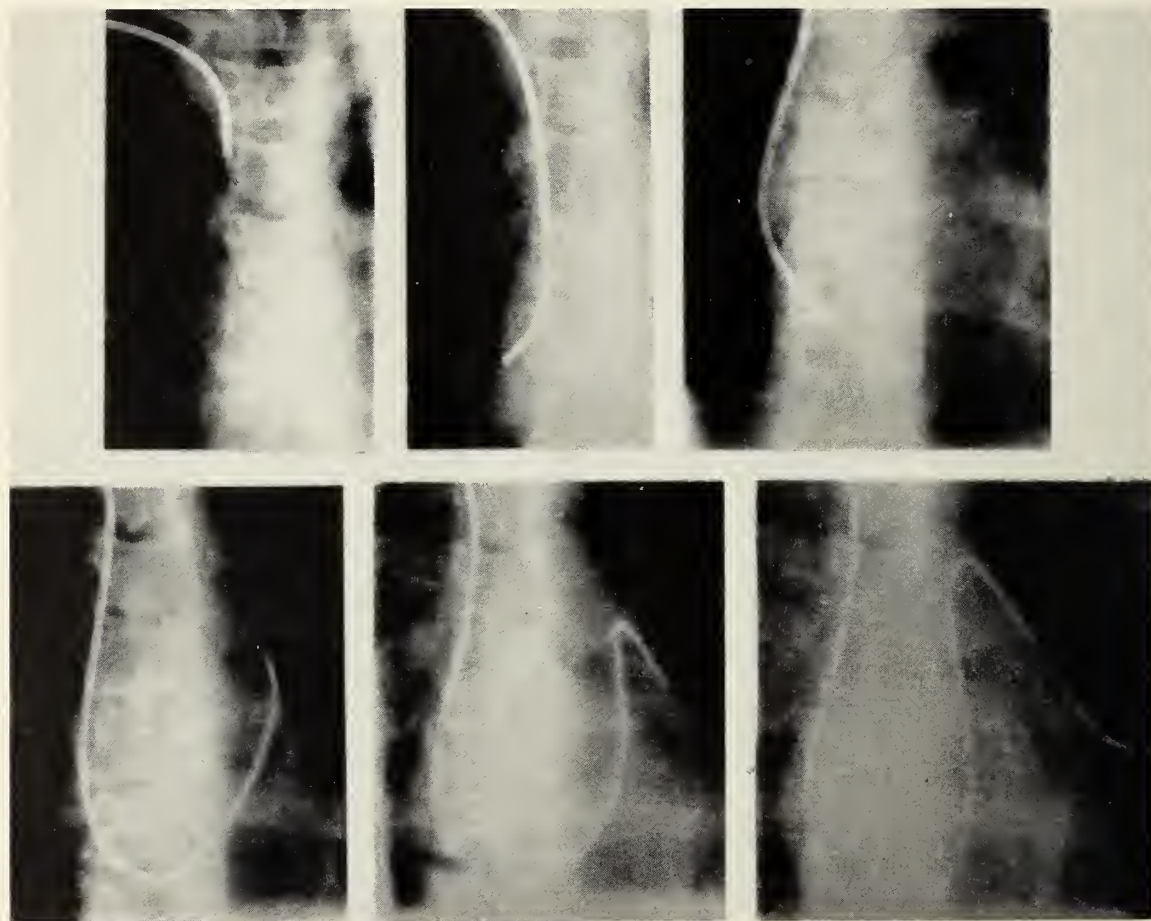


Fig. 1. Roentgenograms showing catheter in various locations in the heart and great vessels: upper left, superior vena cava; upper center, right atrium; upper right, low right ventricle; lower left, high right ventricle; lower center, left branch of pulmonary artery in proximal position; lower right, distal position in left side of pulmonary arterial tree.



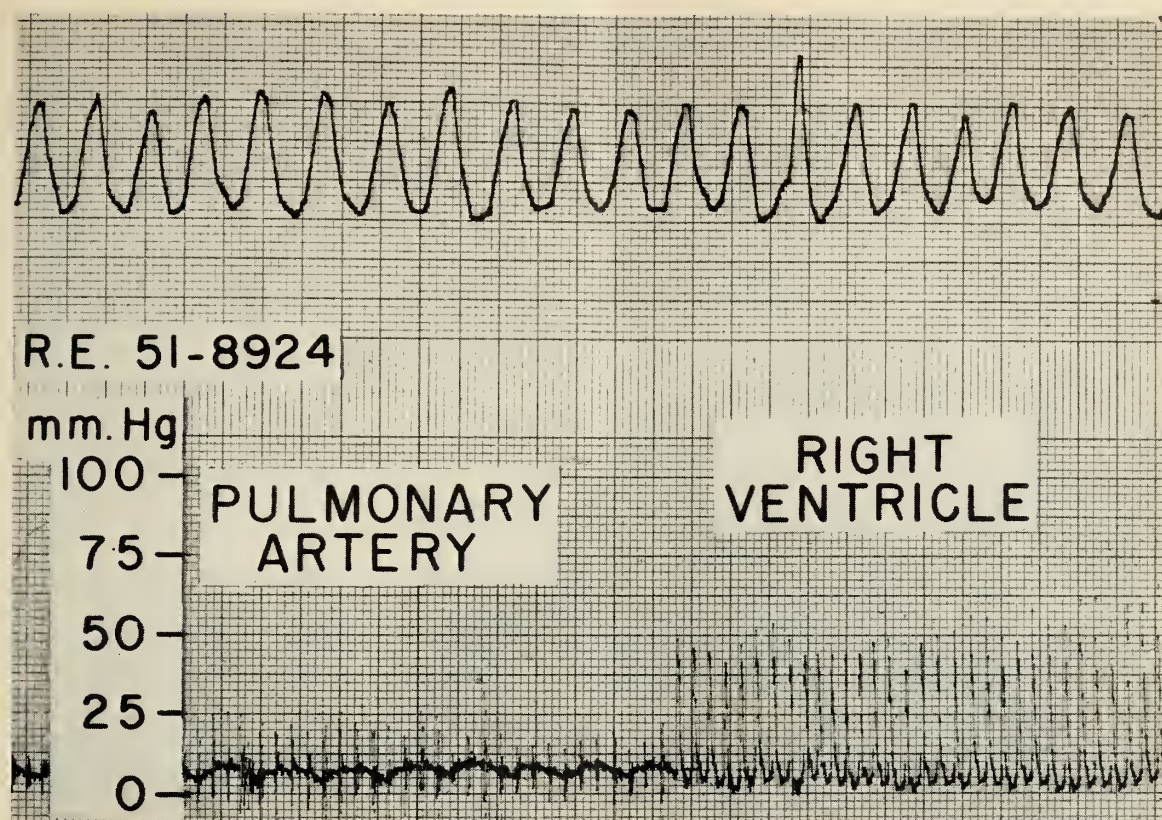


Fig. 2. Withdrawal of catheter from the pulmonary artery to right ventricle in case of pulmonic stenosis. Upper tracing is record of respiration.

agnostic, evaluative and investigative purposes. The Clinical Physiology Section of the Cardiovascular Laboratory has a staff of 5 physicians and 6 full time research technicians to insure the availability, adequacy and accuracy of these special physiological diagnostic methods. Among other procedures, the staff has performed 250 cardiac catheterization studies on patients in the University Hospitals during the past 2¾ years without mishap.

The State University Hospitals are fortunate in being able to offer to the physicians and the people of Iowa special facilities and staff which compare favorably with any in the nation. It is the hope and intention of those faculty members responsible for the cardiovascular program of the College of Medicine to keep abreast of the new developments in this field, from whatever quarter they may be reported, and to put each new method into clinical use as soon as its effectiveness and safety seem to have been established to a reasonable degree. The staff already has had considerable experience and rather conspicuous success with the accepted procedures in thoracic cardiovascular surgery. The purpose of this symposium is to review our clinical experience to date, to indicate the plan of our collaborative clinical approach to these problems, and to describe examples of the more common conditions

which are being studied and treated routinely now at the University Hospitals. Examples of congenital anomalies<sup>10, 11</sup> will be (a) tetralogy of Fallot, (b) patent ductus arteriosus and (c) coarctation of the aorta. Examples of acquired cardiac disease will be (a) mitral stenosis and (b) constrictive pericarditis.

Each condition will be considered separately with an outline of the salient findings from history, physical examination and laboratory evaluation. A case history of a patient seen in the University Hospitals will be given to illustrate each type, and the x-ray findings and surgical therapy will be discussed in detail in the two following papers.

#### TETRALOGY OF FALLOT<sup>12</sup>

Tetralogy of Fallot consists of stenosis of the pulmonary artery, interventricular septal defect, dextra position of the aorta, and hypertrophy of the right ventricle. The disease is usually seen in children, for patients with this affliction seldom live to adult life without operative correction. Generally the child is cyanotic at birth, but occasionally history will bring out the fact that cyanosis did not appear until the child was a few months old—due to the fact that the ductus arteriosus remained open for that period of time. Cyanosis usually deepens early in life and be-



cômes extreme, but it may be so mild as to be scarcely visible in the lips and fingertips when the child is at rest. The child is usually greatly incapacitated. He becomes extremely fatigued on exertion and may squat in a rather characteristic position. These children are undersized and underweight.

Physical examination reveals cyanosis, clubbing of the fingers and toes, a normal sized heart, and a murmur entirely systolic in time heard just to the left of the sternum in the pulmonic area. Laboratory findings show polycythemia (the average red cell count is around 7.5 millions), normal urinalysis, and, on x-ray, a boot-shaped heart with blunted apex and a concavity in the region of the pulmonary segment. Electrocardiogram may be normal, but frequently it shows right ventricular hypertrophy or right bundle branch block. Cardiac fluoroscopy and angiographic studies may be helpful. Cardiac catheterization is useful. Occasionally the catheter can be passed through the ventricular septal defect into the left ventricle and frequently the catheter can be passed through the pulmonary valve into the pulmonary artery. Pressure in the pulmonary artery is very low. Withdrawal into the right ventricle reveals high pressure, making the diagnosis pulmonic stenosis. (See Fig. 2). Because of the fact that the shunt is from right to left, blood oxygen contents are of little value except to demonstrate arterial blood oxygen desaturation. Clinically untreated tetralogy of Fallot is a serious disease which results, for most patients, in death in childhood. Early diagnosis is important. Surgical shunting procedures are of great value and are discussed in a later paper in this symposium.

#### CASE HISTORY

R. E., a 24 year old bookkeeper, was admitted to the University Hospitals on August 6, 1951 with the chief complaint of having been cyanotic since birth. The patient stated he had always been blue, never had periods of normal color. During childhood he had had to squat and rest after exertion. Although his activity was considerably limited, he managed to work 50 hours a week as a bookkeeper.

Physical examination revealed a well developed, well nourished white man who was quite cyanotic. Blood pressure 114/80, pulse 68, respirations 28. Positive physical findings included the following: Heart did not seem to be enlarged or overactive. There was a harsh systolic murmur heard over the entire precordium, most intensely in the pulmonic area. Pulmonic first sound was accentuated. Chest was clear to percussion and auscultation. Abdomen was normal. Liver was not palpable. There was marked clubbing and cyanosis of fingers and toes. There was no evidence of peripheral edema.

Laboratory work revealed that the urinalysis was normal. Hemoglobin was 28.4 grams, red

count 7.08 millions, hematocrit 87 per cent, sedimentation rate was 3 mm. in one hour, white count 7,600 with a normal differential. Blood Wassermann was negative. Cardiac fluoroscopy showed 2+ right and no left ventricular enlargement, probable dextro-position of the aorta, and slightly decreased vascular markings in the lungs. D.R. of the heart was .49. Fluoroscopic diagnosis was tetralogy of Fallot. Electrocardiogram showed complete right bundle branch block. Cardiac catheterization was performed. Pressure in the right atrium was 10/5 mm. Hg., in the right ventricle 96/0 mm. Hg., and in the pulmonary artery 14/9 mm. Hg. Femoral artery pressure was 130/80 mm. Hg. blood-oxygen contents were as follows: Right atrium 26.52 vol. per cent, right ventricle 25.77 vol. per cent, pulmonary artery 26.62 vol. per cent, and femoral artery 29.65 vol. per cent. Femoral arterial blood was 80.6 per cent saturated.

See Table 1 for a comparison of the pressure readings and the blood oxygen content in this patient with those of a normal subject. The reason that all of the samples of R. E. were high in oxygen content is that he had appreciable polycythemia.

TABLE I

Locations	Pressures in mm. Hg.	
	Normal	R.E.
Right atrium	8/0	10/5
Right ventricle	30/0	96/0
Pulmonary artery	30/15	14/9
Femoral artery	120/80	130/80
Oxygen Contents in Vol. %		
Right atrium	13-15	26.52
Right ventricle	13-15	25.77
Pulmonary artery	13-15	26.62
Femoral artery	16-20	29.65
Saturation of arterial blood	94-99%	80.6%

#### PATENT DUCTUS ARTERIOSUS<sup>13</sup>

Patent ductus arteriosus gives rise to very few symptoms in most cases, but in some there may be marked invalidism, depending upon the age of the person and the size of shunt which exists. Usually children with this condition appear quite healthy to their parents and are asymptomatic. Symptoms, when they do exist, consist of moderate limitation of physical activity. In these cases strenuous exercise is followed by dyspnea, palpitation, and excessive fatigue.

Usually the diagnosis is made from the physical examination and the findings are clearcut and easily recognizable. Simple examination can lead to rapid and accurate recognition of this congenital anomaly in more than 95 per cent of the cases. The classical finding is the continuous machinery-like murmur best heard in the 2nd or 3rd interspace to the left of the sternum. The murmur is constant, is accentuated during systole and dies off during diastole. A thrill is usually palpable in the same region where the murmur is heard. These patients are not cyanotic. Systolic blood pressure is usually normal and the diastolic



level is apt to be depressed. Pulses in both upper and lower extremities are of normal or slightly increased in volume. The heart is usually normal in size, although it may be somewhat enlarged. Depending on the intensity of the murmur, it may be widely transmitted over the precordium, into the left axilla, into the neck, or through to the back.

Laboratory findings include the following. Blood count and urinalysis are normal. Electrocardiogram is generally normal. Cardiac fluoroscopy is to be discussed in an additional paper. Cardiac catheterization need not be performed in all cases because a clinical diagnosis often can be made. However, in confusing cases cardiac catheterization can substantiate the diagnosis. Because of the left-to-right shunt, blood-oxygen content in the pulmonary artery will be significantly higher than the blood-oxygen contents in the right sided heart chambers. Blood oxygen content in the right auricle, right ventricle and pulmonary artery ordinarily do not vary more than 0.5 vol. per cent.

#### CASE HISTORY

A. H., an 18 year old billing and filing clerk, was admitted to the University Hospitals on August 11, 1952. Her chief complaint was a heart murmur since birth and easy fatigability in the last two years. The patient stated she had known she had heart trouble all her life. She had had no trouble until three years before admission, when she developed shortness of breath and sharp pains in her chest. She felt that she got more tired than the other girls. During the year before admission, the patient had a great deal of sickness, with stomach ache, vomiting, and constipation. These symptoms took her to her family physician, who made a diagnosis of patent ductus and suggested admission to the University Hospitals.

Physical examination revealed a well developed, well nourished girl of 18. Blood pressure 150/50, pulse 92, respirations 20. The heart was slightly enlarged to the left. There was a marked diffusely-felt thrill over the left precordium. The point of maximum intensity of this thrill was in the 3rd intercostal space just to the left of the midline. The thrill was continuous, involving both systole and diastole. Auscultation revealed a murmur similar to the thrill which was of machinery-like character. Murmur was also well heard in the back. There was 1+ left ventricular overactivity and 2+ right ventricular overactivity.  $A_2$  was equal to  $P_2$ . There was normal sinus rhythm. Blood vessels were normal. The pulse pressure was wide. Abdomen was negative. Urinalysis was normal as were the hemoglobin, red count, white count, and differential. Sedimentation rate was 19 mm. per hour. P.A. film of the chest showed cardiac enlargement, accentuation of the pulmonary arteries and pulmonary artery conus segment with suggestion of left ventricular en-

largement. Cardiac fluoroscopy showed that the aorta was enlarged and 3+ overactive. Pulmonary artery segment was 2+ prominent and overactive. There was moderate hilar dance. There was no left auricular enlargement noted on barium swallow. With the left anterior oblique view there was  $\pm$  right and 2+ left ventricular hypertrophy. Electrocardiogram was normal. Cardiac catheterization revealed a left-to-right shunt in the region of the pulmonary artery. Pressure studies were done and were normal throughout. Blood-oxygen content in the various locations was as follows: superior vena cava 12.36 vol. per cent, inferior vena cava 14.31 vol. per cent, right atrium 13.05 vol. per cent, right ventricle 13.54 vol. per cent, pulmonary artery 15.25 vol. per cent, femoral artery 16.89 vol. per cent.

See Table 2 for a comparison of the patient's blood-oxygen contents with those of a normal subject.

#### COMMENT

This patient has the typical history and physical findings of patent ductus arteriosus. Cardiac catheterization showed that the auricular and ventricular blood samples contained approximately the same amount of oxygen but that the sample taken from the pulmonary artery was 2 vol. per cent higher. This is diagnostic of a left-to-right shunt from the aorta to the pulmonary artery.

TABLE 2

Locations	Oxygen Content Normal	in Vol. % A.H.
Superior vena cava	12-15	12.36
Inferior vena cava	14-16	14.31
Right atrium	13-15	13.05
Right ventricle	13-15	13.54
Pulmonary artery	13-15	15.25
Femoral artery	16-20	16.89

#### COARCTATION OF THE AORTA<sup>14</sup>

Coarctation of the aorta may be of two types. A narrowing of a considerable portion of the aortic arch is known as the infantile type. It is usually associated with serious cardiac anomalies, and life is brief. We are not concerned with this type. In the adult type there is a localized constriction of the aorta near the region of the left subclavian artery. Symptoms may be entirely absent, or there may be complaints of headache, nosebleeds, or weakness and numbness of the legs.

The diagnosis can usually be made from physical examination if careful palpation of femoral and radial pulses is done routinely. Femoral pulsations are weak or absent, whereas radial pulsations are normal or of increased volume. These phenomena can be confirmed by taking blood pressure in the arms and legs. Blood pressure in the arms is frequently elevated, whereas pressure in the legs is subnormal. On further examination, the heart is usually normal or slightly enlarged. There is a systolic murmur



heard over the base which is frequently transmitted through to the back. Blood count and urinalysis are normal. Electrocardiogram may be normal or show left ventricular hypertrophy. P.A. film of the chest frequently shows characteristic notching of the inferior borders of the ribs due to enlarged and tortuous intercostal arteries. This is a manifestation of collateral circulation which has developed around the coarcted aortic segment.

Complications which develop most frequently are congestive failure, cerebral accidents, and occasionally rupture of the aorta. Early diagnosis is important because surgery is best carried out in childhood or adolescence. Adults tend to have progressive sclerotic changes in the vessel which markedly increase the hazards of surgery.

#### CASE HISTORY

H. H., a 19 year old furniture-store delivery man, was admitted to the University Hospitals July 27, 1952 because of coarctation of the aorta known for one year. The patient had tried to enlist in the airforce one year before admission, but had been rejected because of hypertension. He returned home to his family physician, who took blood pressure in the arms and legs and made a diagnosis of coarctation of the aorta. The patient stated he was essentially asymptomatic except that his legs became tired on exertion and he had noticed overactivity of the precordium since childhood.

Physical examination revealed a well developed, well nourished white man not ill. Blood pressure in the arms was 194/100, in the legs 110/90. Carotid, brachial, and radial pulses were easily palpable

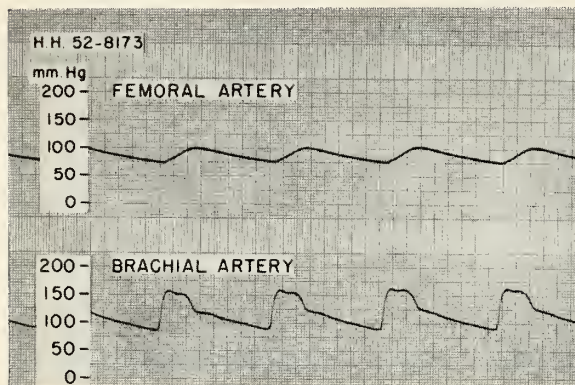


Fig 3. Simultaneous record of brachial and femoral arterial pulses in H. H., patient with coarctation of the aorta.

and overactive. The femoral, dorsalis pedis, and posterior tibial pulses were quite feeble in comparison. The heart was normal in size. There was normal sinus rhythm. There was a grade 3 systolic murmur heard best at the third left intercostal space near the sternum. This murmur could be heard over the entire precordium and also in the back.

Laboratory studies: Blood count was normal. Urinalysis showed 1+ albumin. Routine chest x-ray showed notching of some of the posterior ribs, the most prominent being the 6th on the right side. Cardiac fluoroscopy showed 1+ left ventricular hypertrophy and no other abnormalities. Electrocardiogram was normal. In the cardiovascular laboratory Cournand needles were inserted into the brachial and femoral arteries and simultaneous pressure readings were recorded. Brachial artery pressure was 165/90, femoral artery pressure 100/75. These are shown in Fig. 3.

#### MITRAL STENOSIS

Mitral stenosis is caused by rheumatic fever which has taken place a number of years before the patient develops trouble attributable to his valvular lesion. There may or may not be a history of rheumatic fever. Some patients who are completely asymptomatic have a diagnosis made by a physician who hears the characteristic heart murmur. Others develop gradually increasing shortness of breath on exertion. This may increase to the point of noteworthy limitation of activity, inability to sleep lying flat, and hemoptysis. Occasionally frank cardiac failure with hepatomegaly and peripheral edema are all present at the time that the patient first seeks medical advice. Still other cases of mitral stenosis manifest themselves initially by a hemiplegia. This is usually due to an embolus which forms in a fibrillating left auricle. Physical examination generally reveals the patient to be well developed and well nourished. Malar flush is frequently present. The heart may or may not be enlarged, depending upon whether the patient is in cardiac failure. Rhythm may be normal sinus but there is frequently an auricular fibrillation.  $P_2$  is usually louder than  $A_2$ . The characteristic finding is a diastolic murmur of increasing intensity heard best just before systole. The murmur is usually rumbling, low pitched, and well circumscribed, and is heard at the apex. If the patient is not in failure, examination of the abdomen and extremities will be normal. Hemoglobin, red count, white count and urinalysis are usually normal. P.A. film of the chest usually demonstrates an abnormal silhouette characteristic of mitral stenosis. Cardiac fluoroscopy is extremely helpful. Occasionally calcifications may be demonstrated within the heart in the region of the mitral valve. Electrocardiogram may show auricular fibrillation or normal sinus rhythm. There may be no additional abnormalities, or there may be right ventricular hypertrophy or right bundle branch block. Cardiac catheterization shows elevated right ventricular and pulmonary artery pressure which becomes even more elevated following exercise. Pulmonary capillary pressure is usually elevated, and, in the absence of significant mitral insufficiency, pulse pressure in the pulmonary capillary bed is small. Resting cardiac output may



be normal, but more frequently is less than normal. Cardiac output either does not increase with exercise or does so only very slightly. Major complications of mitral stenosis are cerebral embolism and cardiac failure.

Care must be taken in the selection of patients for mitral valvuloplasty. Aortic valve disease, significant mitral regurgitation and left ventricular hypertrophy all contraindicate the operation. Initially, only severely disabled patients were treated surgically. But as experience with the operation has grown, it has become clear that the operation is mandatory in those patients with mitral stenosis who are gradually deteriorating because of the disease, and should be strongly considered in those patients who, although quite able to do their routine tasks, are nevertheless symptomatic. In patients who are asymptomatic, it is doubtful that operation should be performed.

#### CASE HISTORY

D. L., a 45 year old mechanic, was admitted to the University Hospitals January 27, 1952 because over a period of 3 years he had had increasing shortness of breath on exertion and had had heart trouble for 25 years. The patient stated that at the age of 7-8 years he had painful stiff wrists. At the age of 11 he had Saint Vitus' dance. At the age of 20 he was in bed for 4 months with an illness described as pericarditis, at which time he was first given digitalis. Eleven years before admission, he awakened with a right hemiplegia and left facial palsy. Partial recovery was apparent in one day, but the patient stated that he still had some weakness in the right arm. Shortly after his stroke, his family physician found that the patient had auricular fibrillation. In the last three years he noted that shortness of breath on exertion was becoming gradually worse. He had been taking digitalis for the 2 months before admission.

Physical examination revealed a well developed, well nourished white man not in acute distress. His chest expanded well. Lungs were clear to percussion and auscultation. Heart was enlarged 2 cm. to the left of the midclavicular line. There was 1+ overactivity of the right ventricle. Left ventricle was not overactive.  $M_1$  was loud.  $P_2$  was loud and snapping. In the 6th left intercostal space in the midclavicular line, there was a low-pitched drum-roll murmur through most of diastole. The murmur was well circumscribed, heard in the area as large as a 50 cent piece. Rhythm was auricular fibrillation. Abdomen was flat, and no masses or organs were palpable. There was no peripheral edema.

Laboratory findings: Hemoglobin, red count, white count and urinalysis were normal. Sedimentation rate was 48 mm. per hour. P.A. film of the chest demonstrated the lungs to be clear. Cardiac silhouette was abnormal, with a small aortic knob, prominence of the pulmonary artery segment and rounding of the right border of the

heart. D.R. was .52. Cardiac fluoroscopy showed a small aortic knob. The pulmonary arteries were prominent with 2+ pulmonary congestion. Double shadow was noted on the right border of the heart, indicating left auricular enlargement. In the right anterior oblique view, the pulmonary artery segment was 2+ prominent, and there was 3+ enlargement of the left auricle noted on barium swallow. No calcifications were demonstrated within the heart. In the left anterior oblique view there was 3+ right and probably no left ventricular enlargement. Electrocardiogram showed auricular fibrillation, incomplete right bundle branch block, and digitalis effect. Cardiac catheterization was performed. This showed a right atrial pressure of 8/0 mm. Hg. Right ventricular pressure was 80/3 mm. Hg. Pulmonary artery pressure was 62/37 mm. Hg. After exercise this rose to 115/62 mm. Hg. Distal pulmonary artery pressure was 20/15 mm. Hg. Resting cardiac output was 5.54 liters per minute with a stroke volume of 92 cc. Cardiac output during exercise was 5.08 liters per minute, with a stroke volume of 45 cc.

Consult Table 3 for a comparison of the pressures taken in D.L. with those of a normal subject. It is interesting to note that the cardiac output in this patient is fixed at 5 liters, failing to increase with exercise.

TABLE 3

Location	Pressures in mm. Hg.	
	Normal	D.L.
Right atrium	8/0	8/0
Right ventricle	30/0	80/3
Pulmonary artery (proximal)	30/15	62/37
Pulmonary capillary	8/0	20/15
Femoral artery	130/70	120/80
Cardiac Outputs	liters/min.	
Rest	4-6	5.54
Exercise	8-12	5.08

#### CONSTRICTIVE PERICARDITIS<sup>15, 16</sup>

Chronic constrictive pericarditis is a disease of multiple etiologies. Tuberculosis, chronic infections and hemopericardium due to injury have all been known to produce this condition, and a great many cases are of unknown etiology. Patients notice a gradual onset of dyspnea, edema of the lower extremities, swelling of the abdomen, palpitation of the heart, and cough. In the diagnosis, physical examination is more important than is the history. These patients have distention of the neck veins, enlargement of the liver, ascites, and peripheral edema. The heart is usually normal in size, and murmurs are absent. Pulse volume is small, and the systolic blood pressure and pulse pressure are characteristically low or within normal limits. Paradoxical pulse (a fall in systolic blood pressure during inspiration) may be observed. Pleural effusion is commonly present. Heart rhythm may be normal, sinus or irregular due to auricular fibrillation or flutter.

Blood count and urinalysis are usually normal. Electrocardiogram is frequently helpful, demonstrating low voltage of the QRS complexes and low amplitude or inverted T waves. P.A. film of the chest may show the heart to be normal or slightly enlarged. In a fair percentage of cases, calcification—from a few plaques to complete encirclement—is visible within the borders of the cardiac silhouette. Fluoroscopic examination demonstrates decreased or completely absent cardiac pulsations. Cardiac catheterization shows elevation of superior vena-caval, atrial and right-ventricular diastolic pressures. Cardiac output is usually fixed close to the resting level.

#### CASE HISTORY

S. H., a 23 year old housewife, was admitted to the University Hospitals on September 12, 1952 because for 18 months she had had an enlarged abdomen. Patient stated that in January, 1951 she noted painless, gradually progressive enlargement of the abdomen. She consulted a physician in April, 1951, who advised an exploratory laparotomy. This operation was performed, and a diagnosis of hepatic cirrhosis was made. Following laparotomy, she required paracentesis at approximately monthly intervals.

Physical examination revealed a thin, chronically ill woman. Temperature 99, pulse 110, respirations 18, blood pressure 140/90. There was one 2 x 2 cm. cutaneous spider angioma over the upper sternum. The sclerae were not icteric. Neck veins were 4+ distended. There was dullness to percussion and diminished breath sounds over the right lower chest. PMI of the heart was in the 5th intercostal space. Mechanism was auricular fibrillation at 110.  $P_2$  was greater than  $A_2$ . No murmurs were heard. Examination of the abdomen revealed bulging of the flanks. A fluid wave was present. The liver was palpable three fingerbreadths below the right costal margin, hard and nodular. The spleen was palpable one fingerbreadth below the left costal margin. Pelvic examination was normal. There was 3+ pitting edema of the legs to the level of the knees.

Urinalysis, hemoglobin and white count were normal. Sedimentation rate 31 mm. per hour. Blood Wassermann negative. P.A. film of the chest showed pleural effusion on the right and calcification of the pericardium. Fluoroscopic examination of the heart showed a right pleural effusion and definite pericardial calcification on the left side of the cardiac silhouette at the base and extending up anteriorly over the right ventricle. BSP test showed 5.5 per cent retention of the dye after 30 minutes. Plasma proteins totaled 7.01. Albumin 4.58. Globulin 2.43. Van den Bergh was 1.2 mg. per cent. Cephalin flocculation test was negative at 24 and 48 hours; thymol turbidity test 6 units; zinc sulphate test 12 units; cholesterol 96 mg. per cent. Electrocardiogram showed auricular fibrillation with a ventricular

rate of 120. There were RS-T and T-wave changes suggestive of myocardial disease. Cardiac catheterization showed that the pressure in the superior vena cava was 22/16, in the right atrium 21/15, in the right ventricle 40/12, in the proximal pulmonary artery 37/20, in the pulmonary capillary 17-26, and in the femoral artery 125/75 mm. Hg. Resting cardiac output was 5.20 liters per minute. Exercise cardiac output was 5.85 liters per minute. Resting stroke volume was 44 c.c. and exercise stroke volume was 41 c.c.

For a comparison of normal pressure values and cardiac output with those of S. H. consult Table 4.

TABLE 4

Location	Pressure in mm. Hg.	
	Normal	S.H.
Superior vena cava	8/0	22/16
Right atrium	8/0	21/15
Right ventricle	30/0	40/12
Pulmonary artery	30/15	37/20
Pulmonary capillary	8/0	17-26
Femoral artery	130/80	125/75
Cardiac output	liters/min.	
Resting	4-6	5.20
Exercise	8-12	5.85

#### SUMMARY

1. The history of recent developments in diagnosis and therapy of some intrathoracic cardiovascular diseases has been traced.
2. The cooperative program at the State University of Iowa Hospitals for diagnosis and treatment of congenital and acquired cardiovascular diseases has been discussed.
3. Three congenital anomalies—tetralogy of Fallot, patent ductus arteriosus, and coarctation of the aorta—and two acquired anomalies—mitral stenosis and constrictive pericarditis—have been discussed from the medical standpoint, and an example of each has been presented in the form of a case history from the files of the State University of Iowa Hospitals.

#### BIBLIOGRAPHY

1. Robb, G. P., and Steinberg, I.: Practical Method of Visualizing Chambers of the Heart, Pulmonary Vessels, and Great Blood Vessels in Man, *J. Clin. Investigation* 17:507 (July) 1938.
2. Dotter, C. T., and Steinberg, I.: Angiocardiography, *Circulation* 4:123-138 (July) 1951.
3. Forssmann, W.: Die Sondierung des rechten Herzens., *Klin. Wchnschr.* 8:2085-7 (Nov. 5) 1929, Addendum 8:2287 (Dec. 3) 1929.
4. Klein, O.: Zur Bestimmung des zirkulatorischen Minutenvolumens beim Menschen nach dem Fickschen Prinzip., (Gewinnung des gemischten venösen Blutes mittels Herzsondierung) *Munchen. Med. Wchnschr.* 77:1311-12 (Aug. 1) 1930.
5. Cournand, A., and Ranges, H. A.: Catheterization of the Right Auricle in Man, *Proc. Soc. Exper. Biol. and Med.* 46:462-66 (March) 1941.
6. Cournand, A., Ranges, H. A., and Riley, R. L.: Comparison of Results of the Normal Balistocardiogram and Direct Fick Method in Measuring the Cardiac Output in Man, *J. Clin. Investigation* 21:287-93 (May) 1942.
7. Brannon, E. S., Weens, H. S., and Warren, J. V.: Atrial Septal Defect. Study of Hemodynamics by the Technique of Right Heart Catheterization, *Am. J. M. Sc.* 210:480-91 (Oct.) 1945.
8. Baldwin, E. deF., Moore, L. V., and Noble, R. P.: The Demonstration of Ventricular Septal Defect by Means of Right Heart Catheterization, *Am. Heart J.* 32:152-62 (Aug.) 1946.



9. Cournand, A., Baldwin, J. S., and Himmelstein, A.: Cardiac Catheterization in Congenital Heart Disease, New York, 1949. The Commonwealth Fund.
10. Blalock, A.: Physiopathology and Surgical Treatment of Congenital Cardiovascular Defects, Harvey Lect., Bull. N. Y. Acad. Med. 22:57-80 (Feb.) 1946.
11. Bing, R. J.: Congenital Heart Disease, An Introduction and Classification, Am. J. of Med. 12:77-96 (Jan.) 1952.
12. Potts, W. J.: The Tetralogy of Fallot, Am. J. of Med. 12:596-602 (May) 1952.
13. Gross, R. E.: The Patent Ductus Arteriosus, Am. J. of Med. 12:472-82 (April) 1952.
14. Baldwin J. S., in Cecil and Loeb: Textbook of Medicine, 8th edition, Philadelphia, 1951, Saunders, page 1092.
15. White, P. D.: Chronic Constrictive Pericarditis, Circulation 4:288-94 (Aug.) 1951.
16. McGuire, J., in Cecil and Loeb: Textbook of Medicine, 8th edition, Philadelphia, 1951, Saunders, page 1086.

## II. ROENTGENOLOGIC EVALUATION

EUGENE F. VAN EPPS, M.D.\*

IOWA CITY

ROENTGENOLOGICAL evaluation of the heart no longer consists of the taking of a single film of the chest. When an evaluation of the heart is requested by the clinician, I prefer to fluoroscope the patient, first because the heart can be seen working not only in a single projection, but also in varying degrees of rotation so that all borders may be visualized; second, the status of the lungs, diaphragm, esophagus, aorta and pulmonary arteries is also determined by this method of examination; and third, the best projections can be chosen to show on radiographs for all to see.

Occasionally angiocardigraphic study is done, utilizing 70 per cent Diodrast, 75 per cent Neo-Iopax or 70 per cent Urokon. Depending on the site of injection and the intervals at which films are taken on a rapid cassette changer, the visualization of practically all parts of the cardiovascular system may be carried out.

### TETRALOGY OF FALLOT

The tetralogy of Fallot is the most common cyanotic heart disease occurring in children surviving beyond infancy. It constitutes between 75 and 80 per cent of our cases of cyanotic heart disease. The pathologic features include the following: (1) defect in the membranous portion of the ventricular septum; (2) pulmonary stenosis; (3) dextroposition of the aorta, so that it overrides the defect in the septum; and (4) right ventricular hypertrophy.

Roentgenographically there are three types of cardiac silhouettes to be considered. The textbook picture of a "boot-shaped" heart, i.e., rounded elevated apex, narrow waist, diminutive pulmonary artery radicles and a normal sized heart, occurs in about 35 per cent of our patients. (See Fig. 1.) In 20 per cent of the cases the silhouette was normal, and the remainder (45 per cent) showed prominence of the pulmonary artery segment due to post-stenotic dilatation, a common finding in other congenital stenoses or atresias.

At fluoroscopy the contour of the heart is seen

to correspond to the above three groups. More importantly, however, it determines the pulsatile characteristics of the pulmonary segment, the size and density of the pulmonary artery radicles in each hilum, and the degree of right ventricular hypertrophy, and with the use of barium in the esophagus, determines the side on which the aorta descends—an important consideration for the surgeon. This will be discussed in further detail by Dr. Ehrenhaft.

Twenty per cent of the cases having this anomaly will also have a right sided aorta. This is not the same as a dextroposed aorta that *all* of the cases show. One other not uncommonly associated defect is an aberrant right subclavian artery. This artery arises as the last vessel on the aortic arch. It then passes usually behind the esophagus, producing a characteristic oblique defect on barium swallow. It may pass between the esophagus and the trachea, and very rarely passes in front of the trachea producing at times, stridor. In at least two of our cases this anomaly was reported to the surgeon. At the time of surgery the proper subclavian artery could be anastomosed without undue tension and angulation, thus making a better functioning anastomosis.

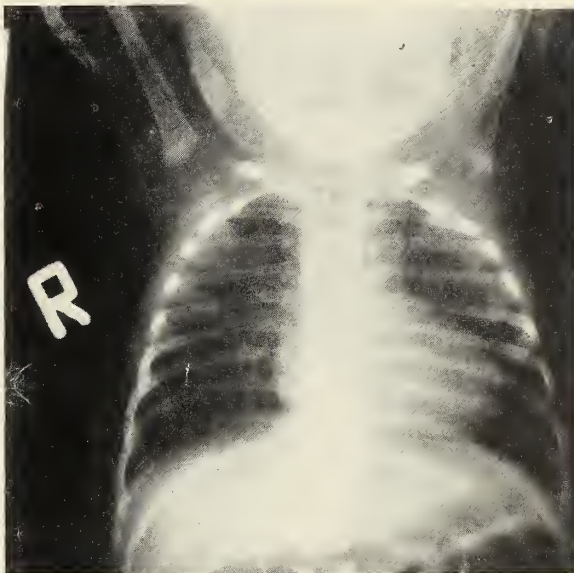


Figure 1. P. A. Film of Chest. Note the "boot-shaped" cardiac contour. The narrow waist, rounded and elevated apex, with the diminished vascular markings extending outwards from each hilum are compatible with a tetralogy of Fallot.

Angiocardigraphy is another important contribution to the diagnosis of tetralogy of Fallot. In our institution a team consisting of an anesthesiologist, a surgeon and a radiologist meet in the x-ray room. The patient is anesthetized preparatory to an antecubital vein cut-down. An endotracheal tube of appropriate size is inserted. Then a predetermined amount of contrast substance, depending upon the weight of the patient, is drawn into a syringe fitted with a large bore

\* From Department of Radiology, College of Medicine, University Hospitals.

needle or cannula. Just before the injection, the anesthetist is told that everything is ready. He deepens the anesthesia. The surgeon then elevates the arm, and in  $1\frac{1}{2}$  seconds empties the syringe of its contents into the vein. With a rapid cassette changer,  $11 \times 14$  films are taken at  $\frac{1}{2}$ -1 second intervals for eight exposures. The sequence of films is started while there still remains about 10 c. c. of contrast substance within the syringe. The films when developed will show opacification of the right side of the heart and the pulmonary artery trunk, and may show, although not usually, the site of the stenosis of the pulmonary artery, the peripheral pulmonary arteries and the simultaneous opacification of the aorta, indicating an overriding aorta and interventricular defect. (See Fig. 2.) Note the simultaneous opacification of the aorta and diminutive pulmonary arteries. Also note the right-sided aorta. In this case the surgeon knew before entering the thorax the size of the pulmonary arteries and the best approach to use for the best results.

I would like to state here that angiocardiology is not without danger especially in cyanotic patients. Cardiac arrhythmias, and temporary respiratory arrest are not uncommon accompaniments of the rapid introduction of contrast substances. The anesthetist is the most important part of the team at this point. He is ready for any emergency that may arise. To date, however, we have had only one death attributable to the procedure.

#### PATENT DUCTUS ARTERIOSUS

The ductus arteriosus is a fetal vascular channel delivering blood from the right side of the

heart through the pulmonary artery to the aorta, by-passing the lungs. At birth this channel closes, first functionally and then later anatomically. Persistence of this channel beyond the usual period results in the clinical and roentgenological findings of patent ductus arteriosus. A second type of shunt, anatomically dissimilar but functionally and clinically similar, consists of a window between the aorta and pulmonary artery.

Roentgenologic study of the heart in these cases serves primarily to substantiate the clinical impression, and to rule out other malformations. The ductus may be quite small or may be as large as the proximal aorta. Therefore, there are varying degrees of changes that may be seen when roentgenological evaluation is done. (See Fig. 3.)

The fluoroscopic and radiographic findings consist of the following:

1. Varying degrees of cardiac enlargement.
2. Overactivity and increased amplitude of pulsation of the left ventricle, aorta and pulmonary artery.
3. Evidence of a left to right shunt manifested by hilar dance, i.e., actively pulsating hilar pulmonary artery radicles which are enlarged and which have increased density.
4. Not infrequent slight retrodisplacement of the barium-filled esophagus, indicating left auricular enlargement.
5. Left ventricular hypertrophy.
6. Slight degree of right ventricular hypertrophy even in the absence of cardiac failure or other congenital abnormalities.
7. Rarely, calcification may be seen in the ductus.

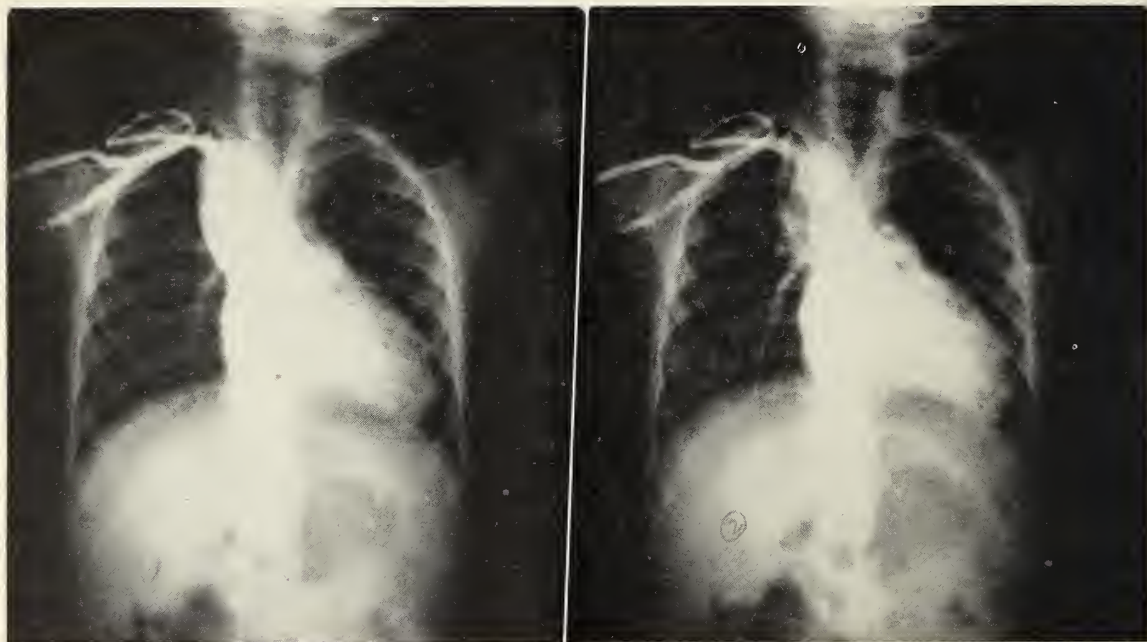


Fig. 2. Intravenous angiocardigram. Note the lateral position of the superior vena cava, the simultaneous filling of the pulmonary arteries and the aorta, the right sided aorta both in its ascending and upper descending portions, the right pulmonary artery smaller than the left, and, in the second film, the descending aorta.



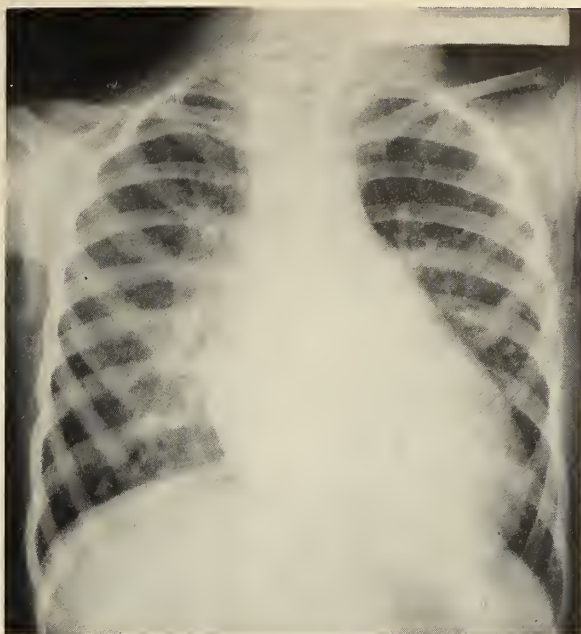


Figure 3. P. A. Film of Chest. Note the cardiac enlargement, enlarged and engorged pulmonary arteries with the prominence of the pulmonary artery segment on the left side of the cardiac silhouette. The typical clinical findings were present in this case, and at surgery a large patent ductus was ligated.

I should like to make it clear that increased amplitude of pulsations seen at fluoroscopy occurs in nervous or excited patients in anemia, in hyperthyroidism, in aortic insufficiency, and in patients with fever. The other findings mentioned above must be looked for and correlated with the clinical findings. If no typical ductus murmur is heard, the roentgenologic examination and interpretation may be erroneous. We have operated on two patients who have had the roentgenologic findings consistent with a patent ductus, but whose murmurs were not typical. No ductus was found in either patient. It, therefore, behooves us to use every means at our command for the diagnosis of patent ductus arteriosus, since it is one congenital lesion that can be cured.

#### COARCTATION OF AORTA

The *clinical* diagnosis of coarctation of the aorta is accurate when the possibility of such a lesion is considered. In the past two years at least two cases have been diagnosed first by the radiologist because of the presence of notching of the ribs, a small aortic knob, and an altered contour of the descending aorta.

Despite the fact that notching of the ribs has been seen in other conditions unassociated with coarctation, it still remains an important and common diagnostic sign. It, like so many other single signs, must be correlated with other roentgenologic and clinical findings.

The fluoroscopic and radiographic findings consist of the following:

1. Notching of the ribs in patients over 8-10 years.
2. Diminutive aortic knob.
3. Abnormal contour of the descending aorta, i.e., it does not blend proximally into the aortic knob.
4. Retrograde aortography confirms the impression that the abnormality in the descending aorta is due to the coarctated segment of the aorta and that the double contour seen in some cases at the level of the aortic knob is due to dilatation and tortuosity of the left subclavian artery.
5. Barium swallow demonstrates in about 25 per cent of our cases the "E" sign, indicating the post-stenotic dilatation of the aorta in the distal limb of the "E" and the smaller indentation indicating the diminutive aortic knob in the proximal limb of the "E."
6. Considerable left ventricular hypertrophy.

It should be emphasized that infants and children up to the age of 8-10 years do not exhibit the notching of the ribs even with severe coarctation. The diagnosis is made clinically. In one instance an infant was referred for cardiac fluoro-

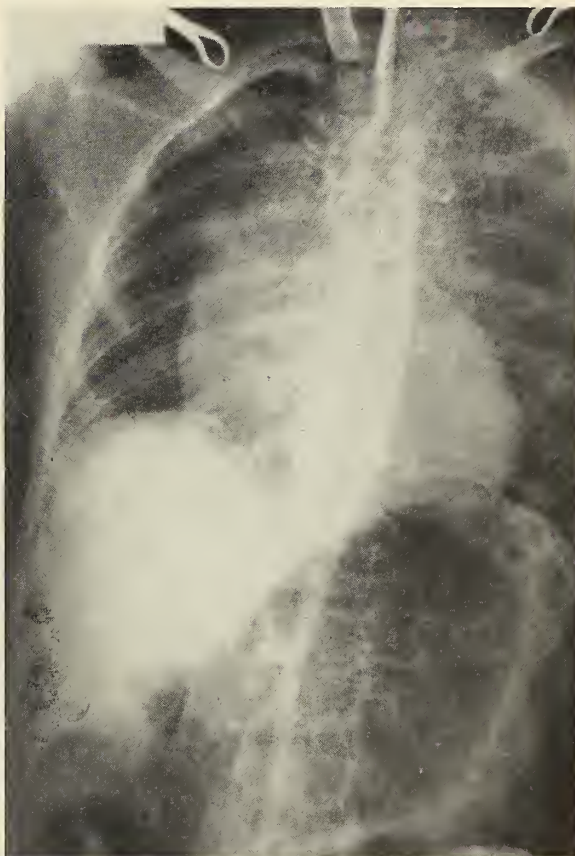


Figure 4. Retrograde aortogram. This was the third in a series of films taken with the rapid cassette changer. It shows disappearance of the contrast substance in the more proximal aorta, but excellently shows the coarctated segment, the collateral circulation described in the text. Note the dilated tortuous intercostal arteries producing the notching of the ribs. The patient was a 10 year old boy.

scopy because of recurrent cardiac failure. Because we examine all of our patients prior to fluoroscopy we found absence of the femoral pulses. A diagnosis was, therefore, made prior to fluoroscopy which could only serve to corroborate our clinical finding.

Retrograde aortography is done at SUI in preference to angiocardiology. In this procedure a cut-down over a common carotid artery is made by the surgeon with the patient fully anesthetized. A cannula is inserted into the artery and rapid retrograde injection of contrast medium is done. Films are exposed in rapid sequence with the patient in a right posterior oblique position. The results of such an injection are seen in Fig. 4. Note the large internal mammary arteries, the one almost obscuring the coarctated segment, the site of the coarctation with the post-stenotic dilatation, the dilated tortuous intercostal arteries (producing the notching of the ribs), and the collateral circulation passing through the costocervical and thyrocervical trunks and their branches.

#### MITRAL STENOSIS

The typical reontgenographic findings of mitral stenosis represent changes that have required years to develop. Whether *pure* mitral stenosis ever occurs is a moot question, but it can be safely stated that there are many cases of mitral stenosis having little or no demonstrable mitral insufficiency. This differentiation is very important to the patient having rheumatic mitral disease, since surgical amelioration of the stenosis is not only feasible, but successful. Symptomatic relief

of varying degrees occurs in a high percentage of cases even though the roentgenographic changes in our experience, aside from the disappearance of cardiac failure, are not demonstrable at least during the period we have observed them. Structural changes that require years for development cannot be expected to ameliorate in a few months.

The fluoroscopic and radiographic findings consist of the following:

1. Small aortic knob.
2. Prominent pulmonary artery segment.
3. Enlargement of the left auricular appendage in about 50 per cent of the severe cases.
4. Evidence of pulmonary hypertension with large, well-filled vascular radicles extending outwards from each hilum. These are non-pulsatile.
5. No evidence of systolic filling of the left auricle which frequently presents to the right of the mid-line either seen inside the shadow of the right auricle or beyond its superior border. (This is proof of mitral insufficiency.)
6. No displacement of the apex of the heart down and to the left (other evidence of left ventricular hypertrophy).
7. Right ventricular hypertrophy as seen in the left anterior oblique position.
8. Enlargement of the left auricle on barium swallow. RAO projection.
9. No evidence of left ventricular hypertrophy as seen in the LAO projection.
10. Calcification within the heart lying within the posterior one third of the cardiac contour as viewed in the left anterior oblique position when the left ventricle clears the spine. This occurs in about 10 per cent of the cases. A higher per-

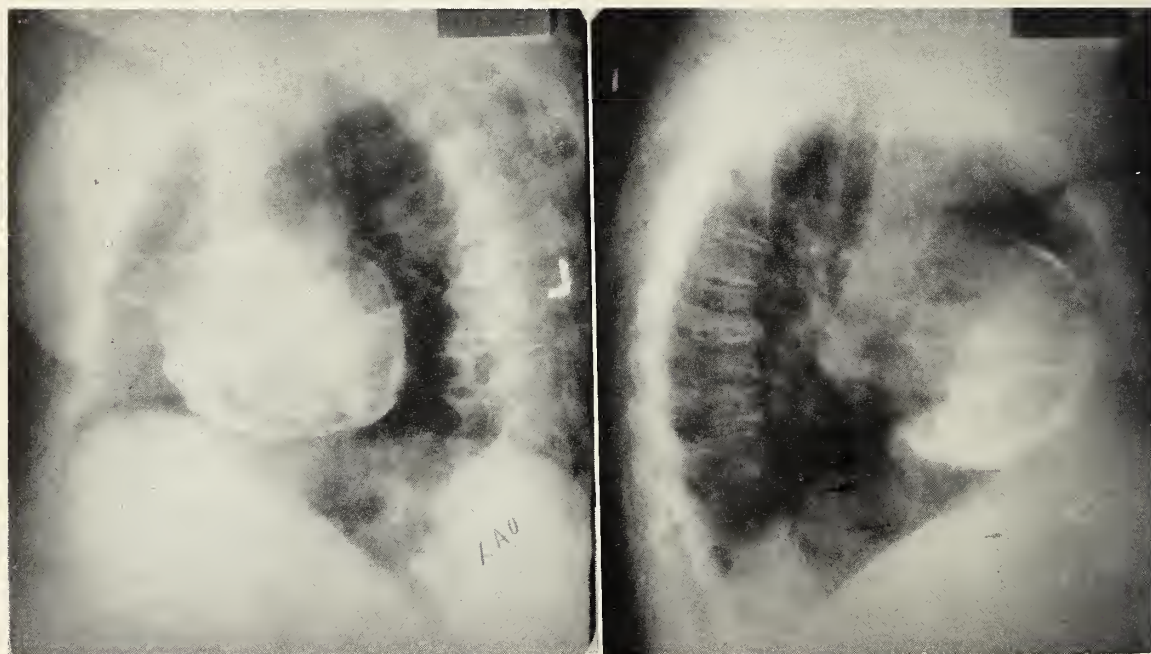


Fig. 5. Right lateral and left anterior oblique views of the heart. Note the extensive calcification overlying the heart and its diaphragmatic surface. This is the best example of *adhesive pericarditis* we have. There were only mild symptoms of *constrictive pericarditis* in this patient.



centage are found to have calcification at the time of surgery than are found roentgenoscopically.

We have attempted to correlate our findings with the results of cardiac catheterization. We have no statistics, but I can state that in this disease we have altogether missed one severe mitral regurgitation that was demonstrated at the time of surgery. In two other cases, our findings did not indicate any insufficiency, but catheterization demonstrated it unequivocally. In other words, there has been a close correlation between these two methods of examination. None is 100 per cent accurate.

#### CONSTRUCTIVE PERICARDITIS

In constrictive pericarditis, the heart is encompassed and compressed by a thick fibrous membrane. This inhibits the normal expansion of the heart in diastole, interfering with adequate ventricular filling.

The fluoroscopic and radiographic findings consist of the following:

1. Usually a small, somewhat triangular heart.
2. Diminished amplitude of pulsations of the borders of the heart, especially over the ventricles. The aorta shows greater amplitude of pulsation than the ventricles.
3. Calcification occurs in about 50 per cent of cases of constrictive pericarditis. Its presence only indicates an adhesive, not necessarily constrictive, pericarditis. Usually it is seen over the diaphragmatic surface and over the right ventricle. Extensive calcification may be seen in patients having none of the symptoms usually associated with constrictive pericarditis. (See Fig. 5.)

After successful decortication of the ventricles, the heart enlarges, and the amplitude of pulsations at first is greater than normal. Later, after the myocardium heals and repairs itself, the heart size and amplitude of pulsations return to normal.

This condition is one in which the radiologist may suggest the diagnosis, since there is not infrequent confusion in the clinical diagnosis. It also is a lesion that is amenable to surgical correction.

#### SUMMARY

1. Roentgenologic evaluation of the heart consists of fluoroscopy, radiography, and in some instances radiography utilizing contrast substances. Roentgen kymography is occasionally used, but we have not used electrokymography.
2. The characteristic changes seen by a radiologist in tetralogy of Fallot, patent ductus arteriosus, coarctation of the aorta, mitral stenosis, and constrictive pericarditis are described.
3. The role of the radiologist in a team consisting of the internist and pediatrician, the cardiac physiologist, and the surgeon is emphasized.
4. No one method of examination can be 100 per cent reliable. The clinician responsible for the patient must evaluate the findings reported by each of his consultants before a final impression can be made.

### III. SURGICAL TREATMENT OF TETRALOGY OF FALLOT, PATENT DUCTUS ARTERIOSUS, COARCTATION OF THE AORTA, MITRAL STENOSIS, AND CONSTRUCTIVE PERICARDITIS

J. L. EHRENHAFT, M.D.\*

IN THE LAST ten to fifteen years a surgical hope has become reality. Prior to 1939 only sporadic attempts to subject the heart or the adjacent large vessels to surgical procedures were reported. Most of those were emergency procedures for cardiac injuries, for drainage of the pericardial sac or for the release of the heart from a constricting pericardial envelope. Nevertheless, clinicians continuously speculated about possible approaches and many suggestions were offered. As early as 1902 Sir Lauder Brunton<sup>7</sup> suggested and investigated an appropriate technique for division of the stenotic valve in patients with mitral stenosis. J. C. Munro<sup>18</sup> suggested the surgical closure of a patent ductus arteriosus in 1907. The first attempt to pass a catheter into the heart and to visualize the heart cavities by injection of contrast media was carried out by Forssmann<sup>12</sup> in 1931. The physiologic concept necessary to treat cardiac lesions safely as well as other necessary knowledge, for instance, anesthesia, antibiotics, blood transfusions and more accurate preoperative diagnostic methods, had not advanced to the extent to bring this type of surgical intervention within the realm of the daily surgical routine where it is today. Not until 1939, when Gross<sup>14</sup> reported the first successful ligation of a patent ductus arteriosus, did the clinical field of cardiovascular surgery really open. This was followed during the next few years by rapid expansion to include other disease entities mostly of congenital nature. In 1945 Blalock and Taussig<sup>5</sup> reported the first successful operative procedures in patients with pulmonic stenosis and tetralogy of Fallot. Potts<sup>19</sup> reported a modified procedure for the same congenital cardiac defect in 1946. Crafoord<sup>8</sup> and Gross<sup>15</sup> in 1945 were the first to report the successful correction of coarctations of the aorta. It is of importance to note that all those procedures were surgical attacks on large vessels and not direct surgery on or within the heart proper. With the rapid development of new physiologic investigative techniques pertaining to thoracic and cardiac surgery, sound intratracheal anesthesia, antibiotics, availability of blood through blood banks and, above all, a courageous approach by surgeons, the interest shifted more to the direct attack upon some of the congenital and acquired heart lesions. Experimental and clinical attempts to correct some of the intracardiac defects were successful. In 1948, Harken<sup>17</sup> and, in 1949, Bailey<sup>1</sup> and colleagues re-introduced the interest and made safe a procedure for the correction of mitral stenosis by the technique

\* From the Department of Surgery, Division of Thoracic Surgery, State University of Iowa College of Medicine, Iowa City, Iowa.



which had been previously suggested by Brunton<sup>7</sup> and successfully carried out by Souttar<sup>20</sup> in 1925. During the last four years enormous surgical progress in the treatment of many of the cardiac diseases, congenital or acquired, has taken place. Many of the problems which face the surgeon today have been at least partially solved. Others are still awaiting new approaches or perfection of techniques. The possibility of working surgically under direct vision within the cardiac chambers is probably the most pressing phase yet to be developed. Whether the solution will come through extracorporeal pumps and shunting of the circulation or by cooling of the human body with reduction of its oxygen requirements to a level which may permit temporary clamping of the inflow and outflow tracts of the heart remains to be seen.

The necessity to substitute large vessels either for shunting procedures or for actual replacement of diseased ones has brought about the perfection of methods for preservation of arteries and veins. The use of those preserved grafts is a safe and practical clinical procedure at the present time.<sup>16</sup> Another disease entity which has defied surgical treatment until recently is arteriosclerotic occlusive vascular disease, involving either coronary or peripheral vessels. Beck's<sup>3, 4</sup> classic experimental and clinical investigations have gone through many stages, and some modifications have recently been successfully applied in carefully selected patients. The great interest and the determined enthusiasm shown not only by physicians and surgeons, but also by investigators in these large fields will assure many new concepts, developments and perfection of techniques in the coming years.

We will describe the surgical problem and procedures employed in five different congenital and acquired cardiac lesions in which the surgery has been standardized and has been adequately proven to be successful in most instances.

#### TETRALOGY OF FALLOT

The classical type of anomaly is a combination of either an infundibular or a valvular stenosis of the pulmonary artery, an overriding of the aortic orifice over both right and left ventricles, a high interventricular septal defect and a right cardiac hypertrophy. The severity of the obstruction of flow into the pulmonary artery as well as the amount of overriding of the aorta and the size of the interventricular septal defect determines the extent of incapacity and cyanosis of these patients. All gradations from very mild to extremely severe clinical pictures are encountered. There is always a right-to-left shunt present. An admixture of poorly oxygenated blood is shunted from the right side of the heart directly into the aorta. Only patients who definitely have obstruction to the pulmonary artery flow either in the form of an infundibular or valvular stenosis should be subjected to surgery in an attempt

to alleviate the symptoms. The only improvement surgical intervention can offer is to increase the flow of blood through the pulmonary arteries. This can be accomplished by several techniques. The classical Blalock type of operative procedure (Fig. 1) utilizes either the right or left subclavian

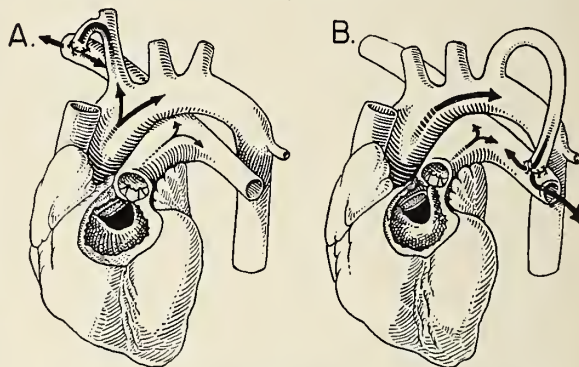


Fig. 1. Tetralogy of Fallot: Blalock type of operative procedures. A. Right subclavian to pulmonary artery anastomosis. B. Left subclavian to pulmonary artery anastomosis.

arteries for anastomosis to either the right or left pulmonary arteries, depending upon the age and size of the patient and depending upon the anatomic variations encountered. The side of operative interference and the type of vessels to be used must be chosen carefully. The ideal age for the Blalock type of operative procedure is between 5 and 10 years. In patients of this age group, the peripheral systemic vessels used in the anastomosis are sufficiently large in diameter to assure an adequate anastomotic lumen. Usually the anastomosis is carried out upon a vessel opposite to the side on which the aorta descends. In 20 per cent of patients in whom a right descending aorta is part of the congenital vascular anomaly, a left thoracotomy should be carried out and the left subclavian artery should be anastomosed to the left pulmonary artery. In patients in the adult group, a left thoracotomy and left-sided anastomosis constitute the procedure of choice. The operative procedure popularized by Potts<sup>19</sup> (Fig. 2) has been the preferable one in the very young age group. Many of the children with severe congenital cyanotic heart disease will not survive even with the best of care to reach the age in which a good Blalock procedure can be carried out. In this very early age group, a side-to-side anastomosis is done between the descending aorta and the left pulmonary artery. In both of the above-mentioned operations, systemic arterial blood low in oxygen saturation is made to shunt from a high pressure systemic area into the low pressure pulmonic arterial vascular bed distal to the site of the pulmonary artery stenosis. This permits re-oxygenation of a certain amount of shunted blood, with improvement of all the body changes which have occurred because of chronic anoxia. Brock<sup>6</sup> and Glover<sup>13</sup> and colleagues have become interested in and have car-



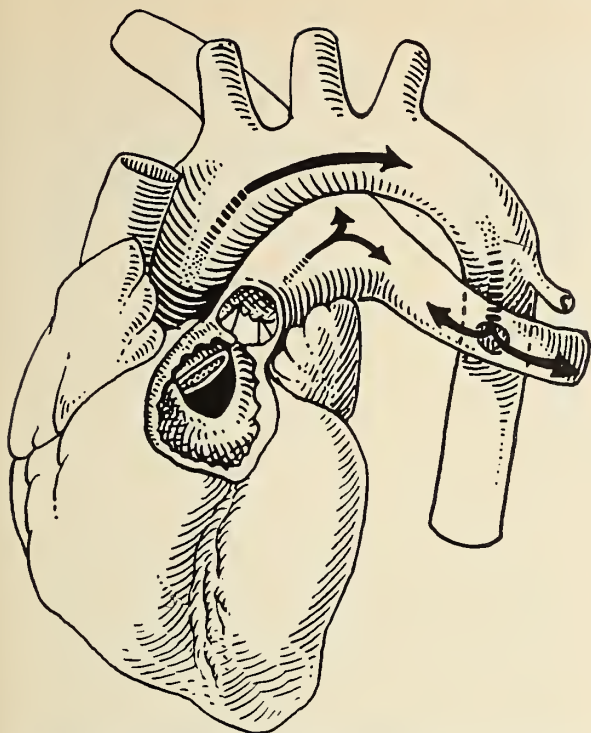


Fig. 2. Tetralogy of Fallot. Potts-Smith type of operative procedure. Left subclavian to descending aorta anastomosis.

ried out direct attacks upon the area of stenosis at the origin of the pulmonary artery. Brock used special valvulotomes to divide stenotic pulmonary valves in cases in which there was no infundibular stenosis. Glover and colleagues attacked the problem of infundibular stenosis by direct excision of a portion of the infundibular obstruction.

None of the procedures for this type of congenital cyanotic heart disease are curative in nature. The intracardiac defects remain. Our experience at the University Hospitals with patients of this type has been limited. We have carried out a total of 22 operative procedures falling into the following categories: Twelve were of the Blalock type and 10 of the Potts-Smith type. There were three deaths, two following a Blalock and one following a Potts type of anastomosis. The ages ranged from an infant of five months to a boy 16 years of age.

#### PATENT DUCTUS ARTERIOSUS

Failure of closure of the patent ductus arteriosus after one year of age is a very definite indication for surgical intervention and surgical obliteration of this anomalous vascular channel. It shunts very large amounts of blood from the aorta into the pulmonary arterial tree. There are two types of patent ducti. The first is the ductus arteriosus which persists as the only vascular anomaly and is uncomplicated by other congenital cardiac defects. The second type is the persistent ductus arteriosus as a part of other and often

very extensive congenital cardiovascular anomalies. In the latter instance it frequently functions as a compensatory shunt necessary to maintain life and in this group surgical intervention and closure of this shunt is definitely contraindicated. The large amount of blood passing from the aorta into the pulmonary arterial tree in cases of otherwise uncomplicated patent ducti arteriosi produces an unequal cardiac output between the right and left ventricles. If patent ducti are permitted to persist, they will cause death in about 85 per cent of patients before they reach the age of 35 years. About 30 per cent will develop bacterial endarteritis and about 50 per cent will die because of cardiac failure. Occasionally aneurysms of the ductus and other complicating developments may be the cause for death of a patient. The ideal time for surgical intervention is in young age when there is assurance that there is only minimal or no atheromatous change within the lumen of the patent ductus. The technique of closure of the patent ductus (Fig. 3) has undergone many changes. There exists some difference of opinion among surgeons as to ligation or modified ligation in continuity alone, versus ligation and division of this structure. Single ligation in continuity has led to recanalization of the ductus in about 8 to 10 per cent of patients. Obliterating the ductus over a longer distance by means of several ligatures and transfixion sutures has reduced the number of recurrences and is the procedure recommended by Blalock and others. Gross strongly advocates complete division and suture of the divided ends. We have performed both types of interruption of the ductus, but have leaned more towards multiple ligations and transfixion. We have had no recurrences to date. A total of 58 patients have been operated upon at S. U. I. to date, six of whom had active bacterial endarteritis at the time of operation. There was one death in 58 procedures. This occurred in a 21 year old man who had an extremely sclerotic, short and wide patent ductus involved by bacterial endarteritis unknown prior to operation. This patient died due to massive hemorrhage and ventricular fibrillation during the operative procedure.

#### COARCTATION OF THE AORTA

The diagnosis of coarctation of the aorta can be made easily on clinical grounds if the diagnosis is suspected in a patient with hypertension in the upper extremities and absent or diminished pulsations in the lower extremities. Occasionally aortography to outline the coarcted area is indicated. This may be done by introduction of radiopaque dye either through the carotid or brachial arteries. There are two types of coarctations of the aorta—the infantile and the adult type. Some of the infantile types of coarctation, particularly if they are combined with a patent ductus arteriosus, are not suited for surgical correction. The adult type of coarctation which consists in a short

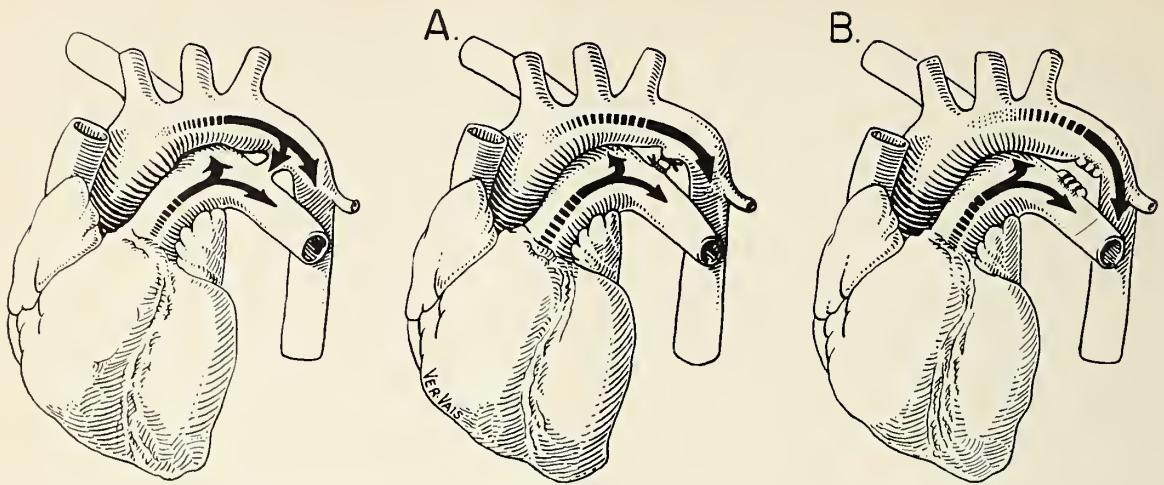


Fig. 3. Patent ductus arteriosus. Closure by: A. Multiple ligation. B. Division and suture.

constricted segment usually at the site of insertion of the ligamentum arteriosum is the one best treated by resection of the coarcted segment (Fig. 4). This may be done by either direct end-to-end anastomosis between the aortic ends or possibly by an anastomosis between the left subclavian artery and the distal segment of the aorta. This latter less desirable procedure has to be carried out if the coarcted segment is found to be too great in length or in some instances where the subclavian artery is actually a continuation of the aortic arch. Clamping of the aorta proximal to the coarctation and excision of this segment depends upon the previously developed collateral circulation around this site. The ideal age for correction of this anomaly is between 5 and 15. Under the age of 5, the collateral circulation may not have fully developed and the aorta itself is small in diameter, preventing the establishment of a large anastomotic lumen. Rarely, patients will have symptoms due to the hypertension under this stated age. Arteriosclerotic changes in the older age group are often very pronounced, making the operative procedure more hazardous and difficult. We feel that most patients above the age of 40 who have adequate collateral circulation and whose symptoms are solely due to hypertension should probably not be subjected to this rather extensive and often difficult operative procedure.

The use of aortic homografts which has been initiated by Gross<sup>16</sup> has become a very definite aid in the surgical correction of this anomaly. In cases where the coarcted segment is long, the use of arterial homografts replacing the excised segment of aorta has made possible establishment of aortic continuity. Our experience at the University of Iowa Hospitals is limited to 20 operative procedures for coarctation of the aorta. In 6 patients an end-to-end anastomosis between the left subclavian artery and the distal aortic segment was carried out. In 12 patients a direct anastomosis between the ends of the aorta after ex-

cision of the coarcted segment was possible. In 2 patients no anastomotic procedure could be carried out. The age range was between 2 years and 36 years. There were two deaths in this series, one in a two year old infant who had severe cardiac failure for one year and who had failed to establish adequate collateral circulation. This child died due to hypertensive cerebral changes which developed during the operation and necessitated termination of the procedure without establishment of an anastomosis. No anastomosis could be carried out on the second patient. The death occurred in this 34 year old man on the 18th postoperative day following rupture of an aneurysm proximal to the area of coarctation.

#### MITRAL STENOSIS

The earlier attempts to treat mitral stenosis surgically have been alluded to in the introduction of this paper. The re-introduction of a now rather safe type of surgical approach to this particular type of acquired valvular stenosis occurred in 1948. This brought a veritable revolution to the treatment of a disease entity which had been thought to be purely medical in its scope until the last four years. Not all patients with chronic rheumatic valvular disease are suitable for surgical correction. Many times after acute attacks of rheumatic fever, multiple cardiac valves may be involved. In the group of patients with multivalvular involvement, medical management is the only possible treatment today. If a patient is fortunate enough to have only mitral valvular disease which is mostly stenotic in type, operative interference is indicated. Peripheral emboli seen not infrequently in this type of patient, particularly if they have auricular fibrillation, are no contra-indication. As a matter of fact, we occasionally encounter patients who have had repeated peripheral embolic phenomena. Ligation of the auricular appendage is indicated in some of those patients inasmuch as the auricular ap-



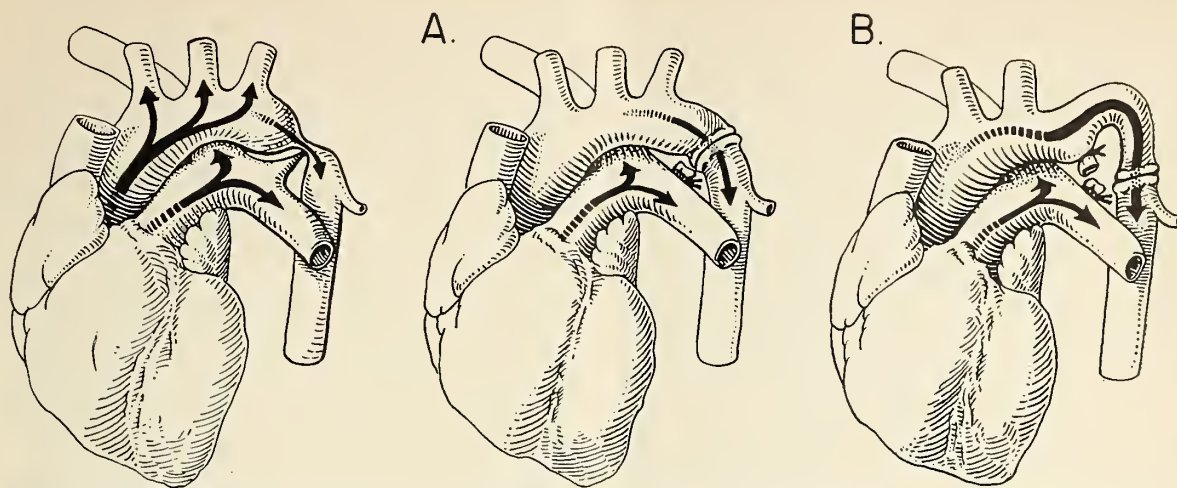


Fig. 4. Coarctation of Aorta. Repair by excision of coarcted segment of aorta and—A. End-to-end anastomosis of aorta. B. End-to-end anastomosis of left subclavian artery to distal aorta.

pendage is the most frequent site of formation of intracardiac thrombi. Very adequate clinical examinations supplemented by cardiac fluoroscopy, cardiac catheterization and very thorough preoperative preparation and medical management are imperative. The operative procedure itself consists in the release of the mechanical obstruction which exists between the left auricle and left ventricle in the form of a stenotic, often immobile, valve. Many types of valvular deformities are encountered. Slit-like openings, distortion of the leaflets and shortening of the chordae tendineae are commonly found. Most of the patients will have more or less extensive calcific plaques in different portions of the valve leaflets. After many previous attempts with different surgical approaches,<sup>9,10</sup> it was borne out that the left transauricular approach is by far the most satisfactory (Fig. 5). Either an anterior or anterolateral thoracotomy is carried out. The pericardium is opened. Purse string sutures are placed about the left auricular appendage, and the operator's finger is inserted through an opening into the left auricle. The purse string sutures are used to effect hemostasis around the operator's exploring finger. Evaluation of the valve leaflets as to the extent of scarring, the size of the mitral opening, the presence or absence of regurgitation or intra-auricular thrombi can now be carried out with ease. We always take direct intra-auricular pressure readings before and after opening the mitral valve to demonstrate the amount of drop of intra-auricular pressure following a satisfactory valvuloplasty. The valve leaflets are then separated along the anterior and occasionally along the posterior commissures. This procedure is carried out either by finger pressure alone or, very occasionally, by insertion of a special type of valvulotome.<sup>2</sup> The purse string sutures are then tied while the operator's finger is withdrawn. Postoperatively, those patients are followed close-

ly by the combined medical and surgical Chest Clinic and all of those patients are subjected to subsequent cardiac catheterization to evaluate their late results. We have operated upon 62 carefully selected patients in whom we felt that the prime lesion was mitral stenosis. Of those 62 patients, 7 at the time of operation were found to have mitral regurgitation to such an extent that further valvuloplasty procedures were contraindicated. There were two deaths in this series, one due to acute right ventricular failure on the operating table. The second death occurred on the 9th postoperative day due to cardiac failure caused by operatively produced mitral insufficiency. The majority of the remaining patients had excellent results.

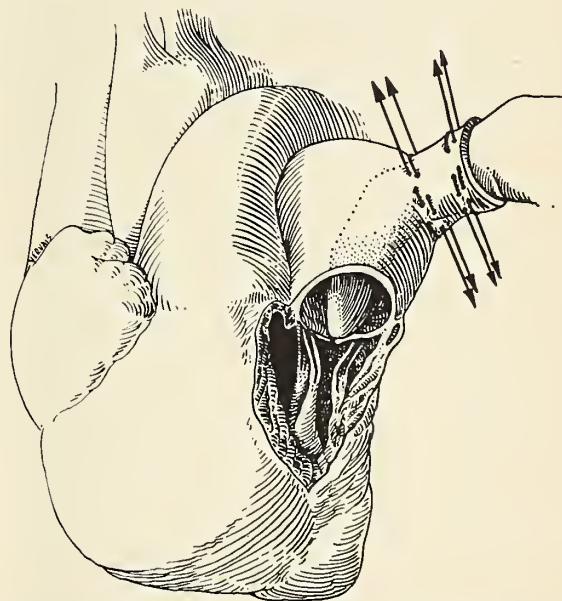


Fig. 5. Mitral stenosis. Diagrammatic illustration showing the approach through the left auricular appendage to the stenotic mitral valve.

## CONSTRICTIVE PERICARDITIS

The cause of development of constrictive pericarditis is felt by most authors to be on an infectious basis. About 20 per cent of patients develop this disease entity on a tuberculous basis; others because of pyogenic or rheumatic infections. We have felt that sometimes constrictive pericarditis may well develop following trauma and development of a hemopericardium.<sup>11</sup> Whatever the cause may be, the end result is the development of a densely scarred, constricting pericardial envelope which prevents adequate filling of the cardiac chambers and incomplete emptying of the heart during systole. Those patients show signs and symptoms of chronic cardiac failure and the other clinical findings of obstruction of the inflow tracts to the heart. The scarred layers surrounding the heart often become calcified. The surgical correction of this disease consists of radical removal of all the surrounding pericardial and epicardial scar. Freeing of the normal underlying cardiac musculature by complete resection of the scarred, often calcific, envelope will permit adequate filling of the cardiac chambers during diastole and adequate emptying during systole. It is of great importance that the superior and inferior venae cavae which are often involved in this extensive process be also completely freed from all the surrounding scar. Thus undue obstruction of the inflow tracts of the heart will be prevented. The usual approach we have used is through an extensive, anterolateral left thoracotomy which permits adequate exposure to all surfaces of the heart. We have carried out a total of eight complete pericardiectomies for this disease entity. In only one of these patients was the process proven to be due to a tuberculous infection. Two definitely had a traumatic basis and the remainder were of nonspecific etiology. There were no deaths in those 8 patients, and all had uniformly excellent results.

## SUMMARY

An attempt has been made to summarize some of the recent developments in the field of cardiovascular surgery. At the University of Iowa Hospitals excellent teamwork by the Departments of Medicine, Pediatrics, Radiology and Surgery has made it possible to treat an increasing number of patients with acquired or congenital cardiovascular disease. The added excellent services given by the Division of Anesthesiology and the Blood Bank Service have made surgical intervention of those conditions relatively safe. A summary of the operative procedures carried out, as well as the mortality encountered in five groups of patients, has been given. They comprise patients with tetralogy of Fallot, patent ductus arteriosus, coarctation of the aorta, mitral stenosis and constrictive pericarditis. Even though the number

of patients treated is small compared to reports from other institutions, our results have been quite satisfactory, and the operative mortality compares favorably with any of the previously published statistics.

## REFERENCES

1. Bailey, C. P.: The Surgical Treatment of Mitral Stenosis (Mitral Commissurotomy), *Dis. of Chest*, 15:377-93, (April) 1949.
2. Bailey, C. P., Glover, R. P., and O'Neill, T. J. E.: The Surgery of Mitral Stenosis, *J. Thor. Surg.* 19:16-45, (January) 1950.
3. Beck, C. S.: The Development of a New Blood Supply to the Heart by Operation, *Ann. Surg.*, 102:801-13, (November) 1935.
4. Beck, C. S., Stanton, E., Batiuchok, W., and Leiter, E.: Revascularization of Heart by Graft of Systemic Artery into Coronary Sinus, *J.A.M.A.* 137:436-42, (May 29) 1948.
5. Blalock, A., and Taussig, H. B.: Surgical Treatment of Malformations of the Heart in which there is Pulmonary Stenosis or Pulmonary Atresia, *J.A.M.A.*, 128:189-202, (May 19) 1945.
6. Brock, R. C.: Pulmonary Valvulotomy for Relief of Congenital Pulmonary Stenosis. Report of Three Cases. *Brit. M. J.*, 1:1121-26, (June 12) 1948.
7. Brunton, L.: A Preliminary Note on the Possibility of Treating Mitral Stenosis by Surgical Methods. *Lancet*, 1:352, 1902.
8. Crafoord, C., and Nylin, G.: Congenital Coarctation of the Aorta and its Surgical Treatment. *J. Thor. Surg.*, 14:347-61, (October) 1945.
9. Cutler, E. C.: The Surgical Aspect of Mitral Stenosis. *Arch. Surg.*, 12:212-29, (pt. 2, Jan.) 1926.
10. Cutler, E. C., and Beck, C. S.: Present Status of Surgical Procedures in Chronic Valvular Disease of the Heart: Final Report of all Surgical Cases. *Arch. Surg.*, 18:403-16, (pt. 2, Jan.) 1929.
11. Ehrenhaft, J. L., and Taber, R. E.: Hemopericardium and Constrictive Pericarditis. *J. Thor. Surg.*, 24:355-68 (October) 1952.
12. Forssmann, W.: Über Kontrastdarstellung der Höhlen des lebenden rechten Herzens und der Lungenschlagader. *München. med. Wchnschr.*, 78:489-92, (March 20) 1931.
13. Glover, R. P., Bailey, C. P., and O'Neill, T. J. E.: Surgery of Stenotic Valvular Disease of the Heart. *J.A.M.A.*, 144:1049-57, (Nov. 25) 1950.
14. Gross, R. E., and Hubbard, J. P.: Surgical Ligation of Patent Ductus Arteriosus; Report of First Successful Case. *J.A.M.A.*, 112:729-31, (Feb. 25) 1939.
15. Gross, R. E., and Hufnagel, C. A.: Coarctation of Aorta: Experimental Studies Regarding its Surgical Correction. *New Engl. J. Med.*, 233:287-93, (Sept. 6) 1945.
16. Gross, R. E.: Treatment of Certain Aortic Coarctations by Homologous Grafts. A Report of 19 Cases. *Ann. Surg.*, 134:753-68, (October) 1951.
17. Harken, D., Ellis, L. B., Ware, P., and Norman, L.: The Surgical Treatment of Mitral Stenosis: Valvuloplasty. *New Engl. J. of Med.*, 239:801-9, (Nov. 25) 1948.
18. Munro, J. C.: Ligation of Ductus Arteriosus. *Ann. Surg.*, 46:335, 1907.
19. Potts, W. J., Smith, S., and Gibson, S.: Anastomosis of Aorta to Pulmonary Artery: Certain Types of Congenital Heart Disease. *J.A.M.A.*, 132:627-31, (Nov. 16) 1946.
20. Souttar, H. S.: Surgical Treatment of Mitral Stenosis. *Brit. M.J.*, 2:603-6, (Oct. 3) 1925.

## "SHOULD YOUR CHILD BE A DOCTOR?"

Through the high schools of the state, the State University of Iowa is distributing a pamphlet in which Dr. Walter C. Alvarez, of the Mayo Clinic, retired, undertakes to give parents an answer to that question.

Among other things, Dr. Alvarez (whose articles, incidentally, appear regularly in the Des Moines REGISTER and TRIBUNE) attempts to discourage fathers and mothers who are inclined to exert pressure on their sons to study medicine.

The New York Life Insurance Company originally published the material as a double-page advertisement in several popular magazines, and is willing to send free copies to doctors who request them.



## THE PSYCHIATRIC ASPECTS OF GERIATRICS

WILLIAM MALAMUD, M.D.\*

BOSTON MASSACHUSETTS

ONE OF THE MOST impressive demonstrations of the effectiveness with which medicine is combating human illness is the marked rise in life expectancy that has taken place during recent years. At the time when Cicero wrote his *De Senectute*, the average life expectancy at birth for a Roman was twenty-three years. From what we can learn, human life expectancy has increased very slowly during the next nineteen centuries. But around the middle of the nineteenth century, it began to rise fairly rapidly, and in 1900 it had increased to about forty-eight years in the United States. This rise has been even more rapid since the turn of the century, and today it is practically three times that of the era in which Cicero lived. Since there can be no doubt but that the curve of the increase in life expectancy has coincided with the remarkable progress that the medical sciences have made during the last one hundred years, we can confidently expect that, with new discoveries constantly being made, the rise will continue proportionately. Obviously, this rise has resulted in an increase of the population. But since the span of life has not been appreciably changed, the increase in life expectancy has resulted in a remarkable shift in the

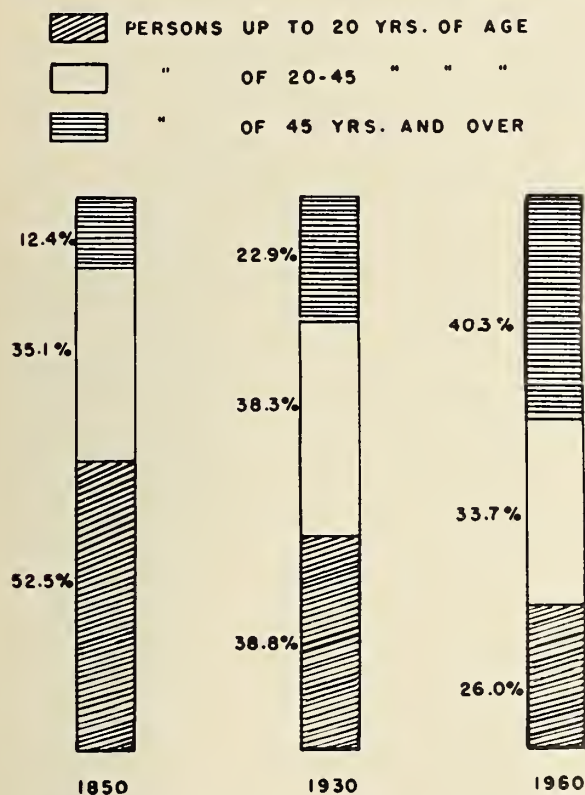


Fig. 1. Shift in the age structure of the U. S. population.

\* Professor and Chairman of the Department of Psychiatry & Neurology, Boston University School of Medicine.

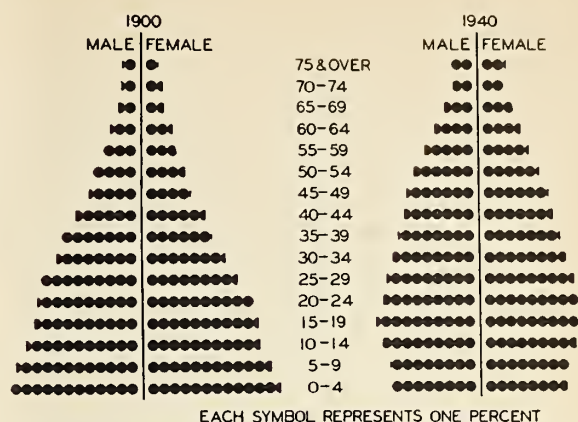


Fig. 2. Changing age distribution in the U.S.A. in 1900 and 1940. Data from National Resources Planning Board: Human Conservation: The story of our wasted resources, Washington, D. C. U. S. Government Printing Office and U. S. Bureau of the Census. Current Population Reports—Population Estimates. Series P-25, No. 39, May 5, 1950. (Chart from Shock, N. W., Trends in Gerontology, printed by permission of Stanford University Press.)

structure of the population from lower to higher age levels. Dublin<sup>1</sup> in one of his publications presents a table based on actual and computed figures which brings out this change in the percentage distribution of the total population by age for the 130 years from 1850 to 1980.

The main points in this shift are graphically represented in Figure 1. In this figure are presented the structures of the population at three different periods, namely, 1850, 1930 and 1980. It can be seen here that whereas in 1830 the largest component of the population consisted of those nineteen years and younger, and in 1930, this was superseded by the twenty to forty-four years age group, the computation is that in 1980 the largest of the three will be that of forty-five and over. This fact becomes particularly important when we realize that forty-five is the age which has traditionally been associated with the onset of involution, to be followed by the appearance of signs of arteriosclerosis at fifty, and of senile changes at sixty and over.

Another illustration of this change on the basis of percentage of population comes from a recent publication by Shock,<sup>2</sup> presenting a comparison of the structure of the population as it existed in 1900 with that of 1940.\*\* Each black dot in Figure 2 represents 1 per cent of the population as it is distributed throughout the various age levels. As we can see from this figure, the pyramid-like structure of 1900 has definitely developed a bulge and is spreading over into the older age groups in the population today. The implications of this change for the medical profession have only recently begun to show themselves. It is a well known fact that various diseases are quite likely to show differences of incidence at different stages of human life. Certain diseases are more frequently

\*\* Only the figures for 1900 and 1940 are presented here for the purpose of comparing them with the data in Figure 1.

encountered in young children, others in young and middle-aged adults, and still others in old people, and, depending upon the percentage of certain age groups in the population, there is bound to be a proportional increase or decrease of the prevalence of these various types of illness. As a matter of fact, this has definitely taken place in regard to those diseases that are especially likely to occur in the so-called "old-age" group, so much so that within the last few years this has led to the development of great interest in the group of diseases now referred to under the name of *geriatrics*.

A very convincing demonstration of the degree of that interest is to be found in the rapid accumulation of the literature on geriatrics. Recently a compilation of the contributions to this field, more particularly in the field of medicine, has been issued, and it is astounding to see that, in an area which for years has received very little attention over 18,000 separate publications are listed. The great majority of these have been published during the last thirty years, particularly since about 1936.

Medicine is a pre-eminently practically oriented profession, and the fact that so many workers in this profession have evinced such a rapid increase in interest attests to the seriousness with which this problem is being considered.

Nowhere in the field of geriatrics have these developments been so evident as in psychiatry. The incidence of mental diseases at this period of life has been steadily climbing for thirty years and during the last fifteen years, it has skyrocketed to a degree totally out of proportion with any of the other types of personality disturbances. To anyone who has followed the composition of mental hospital population during the last thirty years, this increase in the mental illnesses of the aged has been most striking. In the State Hospital for instance, where thirty years ago the bulk of the population consisted of comparatively young patients, suffering from schizophrenia, various organic psychoses and manic-depressive psychoses, with only a small percentage representing the psychoses of old age, today more than a third of the patients are sixty and over. They have superceded in proportion most of the other disease syndromes and even threaten to outnumber the cases of schizophrenia, although the latter have not shown any decrease in incidence. It is true, of course, that in part this is due to the fact that the number of people of 65 and over have increased during recent years as was shown in the two above figures. At the present time, ten and one half million people in this country are in that age bracket. Furthermore, our experts in the field of census statistics predict that if the increase continues at its present rate (and probabilities are that it will even do more than that), this age group of our population will more than double in the next forty years. Obviously, with more people in that group, there will also be more of those who for one reason or another will break under stress situations and de-

velop mental diseases. However, this accounts for only part of the problem, since we find that the increase in admissions to State Hospitals of patients in that age group is entirely out of proportion with the general increase of old people in the total population. At present the indications are that this trend will continue, unless we can gain more insight into the causes of these diseases, and develop more successful methods of treatment and—what is even more important—methods of prevention.

In my discussion today, I would like to present briefly the current status of our knowledge of the nature of these conditions and the admittedly insufficient data we have in regard to their pathology and etiology. With this as a starting point, we may be able to gain an insight into the reasons for the recent increase in the number of these patients, and, from there, proceed to search for methods of dealing with the problem.

It is logical to assume that the increase in incidence during the last few years has occurred either because of an accentuation of those causative factors which are known to us or because of some new ones which have heretofore escaped our attention. If we then undertake an examination of all the factors that are known today to predispose or cause breakdowns of this type, we shall be in a position to answer the above questions.

The psychiatric problems occurring at this age cover a wide range of conditions. At one end of the spectrum, we find the psychoses. The majority of these are included under the various types of senile psychoses and the mental diseases associated with cerebral arteriosclerosis. A very small fraction of these cases is represented by the so-called presenile psychoses (Alzheimer, Picks, etc.), and finally, there is a small, but clinically important group of involutional psychoses. As we proceed from this category of the psychoses towards the group which shades into the area of normal old people, we find certain types of psychoneuroses that characteristically develop in this age period, certain forms of so-called psychosomatic conditions, and furthermore the large heterogeneous series of character and behavior disturbances which, although those whom they afflict frequently merge into the group of normal old people, nevertheless may be responsible for a great many difficulties in adjustment and at times may be precursors of the more serious mental diseases. Finally, added to all of these, there are always certain psychiatric conditions which occur at other age levels too, but for one reason or another have not previously come to light. It is obvious, of course, that we exclude from all these the patients who have been admitted at an earlier age and have just grown old in the institutions.

Clinically and pathologically we have more definite information concerning the psychoses of old age than about any of the other groups mentioned. In fact, they are the only ones that are specifically geriatric in nature. Statistically too, when we speak



with any degree of certainty about increase in incidence of diseases in this age bracket, we refer primarily to the psychoses, and more specifically to the ailments of patients who have actually been admitted to hospitals for mental diseases. Much more complex statistical data are needed to give us an idea of the incidence of these maladies outside of hospitals but nevertheless presenting difficulties in adjustment. From a clinical point of view, the senile, arteriosclerotic and presenile psychoses show characteristic changes consisting primarily of defects in memory, judgment and the other intellectual functions, emotional lability, irritability, suspiciousness, and in a fairly large number, the development of projections in terms of delusions and, at times, hallucinations. Within the group itself, we do find variations, particularly between the senile psychoses and those that develop in association with cerebral arteriosclerosis. This differentiation, however, is not clearcut, since most of the patients manifest mixtures of both.

We also are in possession of fairly adequate information concerning the pathological tissue changes that are characteristic of each one of these diseases. Thus we know that specific gross and histological changes occur in the senile and presenile psychoses. These consist of atrophy of the brain as well as other tissues, senile plaques, fibrillary cell changes, areas of denudation and vascular pathology. Similarly, specific blood-vessel pathology, with related tissue changes, is found in patients with cerebral arteriosclerosis. But here too the differentiation is of a theoretical rather than practical value, since senile changes are found in the brains of persons suffering from arteriosclerosis, and, vice versa, patients with senile psychoses frequently show arteriosclerotic changes in their blood vessels. Since these tissue changes are found in the nervous systems of patients who also manifest the clinical symptoms characteristic of these psychoses, it seemed logical to assume that the clinical manifestations were entirely due to tissue pathology. Further investigations, however, of a more systematic nature have shown that (1) Similar changes both quantitatively and qualitatively are found in the brains of old people who do not show signs and symptoms of these psychoses. (2) In some people who manifest clinical pictures characteristic of the psychoses of old age, the neuropathological changes were minimal. Actually, the truth of the above statements was convincingly demonstrated by an examination of a series of brains, half of which had belonged to persons who before death had been confined for years in a State Hospital because of psychotic manifestations and the other half had belonged to persons whose deaths were due to other causes and who had retained normal adjustment up until shortly before death. Actually, we found severe tissue changes in quite a few of the mentally normal persons, and very-moderate-to-slight changes in patients who had been psychotic for some time. This would indi-

cate that the tissue changes have to be regarded as only one in a series of factors that are responsible for the development of the personality disturbance.

Two problems for further research work are thus posed. In the first place, whether the tissue disturbances are wholly or only partly responsible for the clinical symptoms, we must still search for the causes of the tissue changes themselves. Of particular interest in this regard is the relatively infrequent presenile psychosis known as Alzheimer's disease. Here we find a rapidly progressing deterioration which represents an acceleration of the senile process, both psychological and histological, which develops at a time when the person is not chronologically old. This psychosis has been observed occasionally as early as the third and fourth decades of life. One of these cases reported by Dr. Lowenberg and me<sup>3</sup> showed the first symptoms at the age of fifteen and died at the age of twenty-four. Since this condition is not only precocious in its onset but also accelerated in its progress, it presents a particularly good opportunity for investigating the mechanisms and causes of such disease and at the same time indicates that age alone cannot be regarded as the primary cause. An answer to this question, in regard either to the presenile psychoses, or those with cerebral arteriosclerosis, is still not available, and at most we have only leads to a solution. In the last few years, the possibility of metabolic and biochemical, particularly hormonal, disturbances has attracted a great deal of attention, as a likely cause of such pathology. The endocrine system certainly undergoes changes with advancing age, and similar changes have also been reported in some of the enzymes, such as carbonic anhydrase. This should certainly prove a fruitful field for further investigation.

It is questionable, however, whether metabolic or endocrine changes, on the one hand, and histologic changes in the brain, on the other, can explain all of the psychotic manifestations. We have already referred to the fact that histologic changes of a severe nature may be found in people who show no psychotic reactions, and that senile psychosis may develop in people who show very mild histological changes. This is also true in regard to the endocrine system, and it is here that investigations of the involutional psychoses are particularly pertinent, especially in women. A number of studies which have been carried out by our own workers<sup>4</sup> and by a group of others have shown very definitely that there is no direct correlation between the severity of the endocrine change at the menopause and the development and intensity of the psychosis. Actually, in our own work, we found that the involutional psychosis may develop years after the menopause has definitely been established, and, furthermore, that these people have shown no psychotic manifestations during the time that the menopause took place. Similarly, we found in some cases that the involutional psy-



chosis, particularly in men, but also in women, occurred sometime before changes in hormonal activity became evident. Furthermore, as is well known, replacement therapy, which is so useful in dealing with some of the vasomotor changes at the climacterium is of no value in influencing the psychotic symptoms, but shock therapy and psychotherapy were found to be highly effective.

This brings us to the second question: What factors other than the somatic and histological should be taken into consideration in regard to the etiology of these conditions? In our studies of the involutional psychoses, we found that prepsychotic personality traits and social and psychological stress situations were of great importance and were found to bear a direct relationship to the onset and course of the disease. Studies of the life history and environmental settings of persons suffering from senile psychoses indicate that a similar relationship is to be found in these conditions. We found that the involutional psychoses tend to develop more frequently in persons who are of the over-conscientious, pedantic, introverted and highly sensitive types. By nature, these people tend to restrict their interests to special narrow sectors of their milieu. In this way, they become fixed in certain special types of activity in which they invest all of their emotional interests. Frequently, the particular form of activity to which they have restricted themselves turns out to be "time-bound," i.e., a form of activity in which they can remain productive only up to a certain age. When the time comes that they can no longer continue productively in that activity, a vicious circle is established. The nature of the activity is such that one can maintain proficiency in it only up to a certain age. At the same time, by virtue of their personality, they cannot make the shift to another occupation. Here, society and the individual seem to collaborate in creating an impasse, and to prevent the person from continuing in a productive and well adjusted form of life. Occasionally we found this set of factors is rendered more difficult by some catastrophic stress situation which the person has to meet at that period of life and this seems to serve as the precipitating event for the development of the psychosis. Examples of such situations are found in a great many of the involutional psychoses induced by loss of loved objects (husband, wife, children, the home, etc.). Other factors of importance are operations on or injuries to organs generally related to reproduction (pelvic or breast operations, prostatectomy, herniorrhaphy, etc.). Finally, of similar importance are situations in which the patient is faced with a loss of social or economic security.

It would appear that three sets of factors must be considered of major importance in the development of psychoses in the aging person: (1) physical changes, in the organism as a whole, but particularly in the nervous system, the endocrine glands and metabolism. (2) the particular per-

sonality make-up of the individual which renders him vulnerable to certain types of life problems. (3) special social and psychological stress situations which are particularly likely to develop at this time of life.

The first of these, namely the physical changes, undoubtedly play a role in reducing the ability of the individual to deal successfully with life problems that require flexibility of adjustment. The causes of these physical changes are not known, but the probabilities are that they represent results of a combination of (a) wear and tear that is bound to occur through time; (b) damage due to infectious and toxic agents; (c) disturbances in the body chemistry.

The second etiologic factor, namely, the specific personality structure, has been shown to be of great importance by a number of reliable investigations, and should be taken into consideration in any attempt to formulate plans for the prevention of psychiatric disturbances at this age. It is, I think, fairly generally accepted today that the personality structure of an individual may be regarded as the resultant of the interaction between inherited traits and early environmental factors which mould these traits in the process of growth. It follows, therefore, that a systematic control of these early experiences by proper conditioning and education, can be of great value in modifying the personality structure and in developing patterns of behavior which will render the individual less vulnerable and better prepared to meet the vicissitudes and stresses of old age. It is on this basis that a program of mental health for late maturity can be logically planned.

It seems quite obvious that further investigations of the nature and causes of both physical changes and personality predispositions will eventually lead to a definite decrease of the influence of these factors upon the development of mental disturbances in old age. It is equally obvious, however, that at the present time and in our own generation, we must accept their existence as predisposing agents, and for an immediate program, we must turn our attention to the third group of causes, namely, those social and psychological stress situations which serve as precipitating factors. It is in this category too that we may find an answer to our original query as to the nature of those conditions which have introduced the disproportionate increase in these problems during the last two or three decades.

We have already referred to some of the stress situations that must be considered in this area. Perhaps the most important, and surely the most prevalent of these is the threatened loss of social and economic security. Here we find one of the major factors that may be responsible for the recent increase in admissions to mental hospitals of patients in this age group. Broadly speaking it may be regarded as the result of a discrepancy between medical progress and social organization



in that the latter has not kept pace with the former.

The increased life expectancy that was made possible by more successful treatment of infections, more adequate control of diet and better general hygienic conditions has resulted in an increase in the number of old people. Social organization, however, has not provided the means whereby these old people can be usefully employed and given a logical *raison d'être*. Retirement rules and practices have remained geared to a population distribution and a life expectancy of one hundred years ago. In fact, the general attitude of society and of the older people themselves, has tended to place an even greater premium on youth than was once the case. This was particularly emphasized during the period of preparation for and the developments during the Second World War. As a result, we are faced with the incongruity between an increase in the numbers of old people and a decrease in the opportunities for their useful occupation and, therefore, also for their retention of a sense of security and self-respect. Paul Lemkau,<sup>5</sup> in a recent article on the "Mental Hygiene of Age," stresses this idea particularly when he speaks of the fact that, biologically, animals lose their capacity to function when that capacity is not exercised. Human beings, young and old alike, have the biological need to be productive and useful. When a point is reached where this need is not nourished by the opportunity to be productive, they not only lose desire but even lose the capacity to work.

Society has apparently recognized the needs here, as is evidenced by the expanding old age assistance programs, but this at best is only a symptomatic method of treatment of the problem. It may take care of the day-by-day sustenance of the individual, but does not provide for the more important psychological needs of giving the person the feeling of respect and security that he can only get from a relatively independent life of self-support. Another important fact which apparently is not being recognized is that better medical care has resulted not merely in prolonging life but also in rendering older people, both physiologically and psychologically, more efficient, so that people not only live longer but also retain their capacity for active work more effectively than they used to. But a person's ability to work must be continually supported by the opportunity to utilize this capacity, and an enforced retirement on pension when a person is still capable of active participation must inevitably lead to the psychological atrophy of disuse. It is also essential to keep in mind the fact that maturation is a continuous process in which losses are offset by gains. A person of forty may not have the stamina of the twenty year old in regard to new ventures or certain physical activities, but he has gained in experience and judgment. Old age, too, is not entirely characterized by losses. Employment programs for old people will have to take cognizance of this and plan occupations for them not in spite of the fact that they are old, but

*because* they have developed new and, perhaps, hitherto unforeseen potentialities.

As physicians, we must also give serious consideration to the other stress situations that are most likely to affect the adjustment of older people. We have mentioned the importance of operative procedures in this regard and particularly those that are encountered in gynecological and genito-urinary surgery. The traditional dread of malignancy, the possible further interference with endocrine function at a period when this function is already undergoing a drastic reorganization, and the abrupt realization of "getting old" to which the patient has to adjust himself frequently introduce serious psychological stress. A great deal can be achieved through judicious preparation of the patient before the operation and proper supportive psychotherapy following it. Similar consideration must be given to the severe strain on adjustment at this period of life which is likely to be produced by sickness or death of members of the family or close friends and separation from home or the family.

Time and the restricted scope of this presentation do not permit an adequate discussion of the subject of treatment and rehabilitation of mentally-ill old people. Progress is being made at the present time primarily in the direction of developing positive programs in this area to take the place of custodial care and symptomatic treatment. With proper facilities and personnel, both individual and group psychotherapy have proved highly successful. In fact there is no reason why most of the methods that are being used in the treatment of younger patients should not be just as applicable to elderly ones, provided proper indications exist and suitable precautions are taken. The various forms of shock therapy, chemotherapeutic procedures, physiotherapy and occupational therapy can and should be used in the treatment of these patients, wherever they are indicated and do not present any possibility of doing harm. Finally, we must utilize the great potentialities of re-education and social re-adjustment in a systematic program of rehabilitation.

The problem of geriatrics is an extremely complex one, and its ramifications reach out into every conceivable phase of the physical, biological and mental sciences. The solution of the problem, therefore, calls for a coordinated program in which all of these sciences will participate. We are justified in assuming that medical research will continue to add years to human life expectancy. It is our duty, however, to help in providing the conditions under which these added years will be not merely longer existence but continued active and well adjusted life.

#### REFERENCES

1. Dublin, Louis I.: "Longevity in retrospect and in prospect." In *Problems of Aging*, E. V. Cowdry, ed. Williams and Wilkins, Baltimore, 1939.
2. Tibbitts, C.: "Aging: Implications for Public Health." *Public Health Reports*, 67:121 (February) 1952.



3. Malamud, Wm. and Lowenberg, K.: "Alzheimer's Disease," *Arch. Neurol. & Psychiat.*, **21**:805-27 (Apr.) 1929.
4. Malamud, Wm., Sands, S. L. and Malamud, I. T.: "Involuntary Psychoses." *Psychosomatic Medicine*, **3**:410-26 (Oct.) 1941.
- Malamud, Wm., Sands, S. L., Malamud, I. T. and Powers, P. J. P.: "Involuntary Psychoses." *Am. J. Psychiat.* **105**:567-72 (Feb.) 1949.
5. Lemkau, Paul V.: "The Mental Hygiene of Aging." *Public Health Reports*, **67**:237-41 (March) 1952.

State University of Iowa  
College of Medicine

CLINICAL PATHOLOGIC CONFERENCE  
March 4, 1953

SUMMARY OF CLINICAL FINDINGS

A 54 YEAR OLD WHITE MALE, on admission to the University Hospitals, was disoriented as to time and place, moderately lethargic, and unable to give a history. Information obtained from the patient's wife revealed he had been in apparent good health until five months prior to admission, at which time he began to complain of generalized aching pains, exhibited lassitude, and became irritable. Subsequently, the patient gradually lost weight and continued to complain of aching pains in the muscles of his arms, forearms, and thighs.

There was no essential change until 16 days prior to admission, when following the noon meal he complained of dizziness and had to be assisted to a divan by his wife. This dizziness disappeared in a few moments, and he complained that the aching pains in his arms and legs were more severe. Examination by the local physician revealed no gross abnormality except a mild anemia. The patient complained less of the aching pains during the next few days, but seemed to become generally weaker and began to show slight staggering of gait. He had no definite complaint, saying only that he "just didn't feel good anywhere."

On the evening of the fifth day prior to admission he seemed despondent and depressed. His wife felt that he was confused at times. The local doctor gave him a hypnotic which put him to sleep. On the next day at noon, the patient had a body temperature of 102° F. which was the first temperature elevation of which the wife was aware. He was difficult to rouse, having slept about 14 hours after the hypnotic was given.

He was taken to the local hospital and by the following day the temperature had returned to normal, but hypostatic pneumonia had developed. Penicillin and phenobarbital were given at the hospital. He was up and about, seemed weak, and the staggering became more pronounced. He only rarely complained of the pain in his arms and legs at this time, but began to have some occipital headaches. His appetite remained good. He became increasingly drowsy and because of this symptom was transferred to the University Hospitals.

The patient had worked as a meat butcher for many years, but recently had worked as a school

custodian. He had undergone no operations and had suffered no previous serious illnesses. He smoked a package of cigarettes daily and did not consume alcohol.

On examination at the time of admission, the patient was awake, but his responses were slow and inaccurate. His recent and remote memory were poor, as was his comprehension. General physical examination was not remarkable except for a maculopapular rash over the trunk. There were no enlarged nodes. Antiflexion of the neck was restricted but not painful. Fundoscopic examination revealed flat discs without evidence of papilledema. The abdominal organs were not palpable. The heart and lungs were normal. Blood pressure was 130/80 mm. Hg. There were no pathological reflexes, demonstrable sensory changes, or motor weakness. The reflexes were equal and active. The patient walked slowly, but otherwise his gait was not distinctive.

*Laboratory studies:* The urine had a specific gravity of 1.017, and it showed no abnormalities on chemical or microscopic examinations. The blood hemoglobin level was 13 Gm. per 100 ml., the red blood cell count was 4,480,000 per cu. mm., and the white blood cell count was 9,400 per cu. mm., with a normal peripheral blood smear. Blood and spinal fluid serology examinations were negative. A lumbar puncture on admission showed an initial pressure of 170 mm. of water, 1+ globulin, total proteins of 108 mm. per cent, and 34 cells per cu. mm. interpreted as 31 lymphocytes and 3 polymorphonuclear leukocytes. Subsequent lumbar puncture examinations on the second and fifth days respectively, following admission, revealed 63 cells interpreted as 62 lymphocytes and 1 polymorphonuclear leukocyte, plus 46 cells, all lymphocytes.

Fluid sent to be titred for lymphocytic choriomeningitis was found to be negative. Typhoid, paratyphoid, and brucellosis titres were negative. Skull roentgenograms were interpreted as normal. The roentgenogram of the chest was interpreted as showing mild hyperventilation of the lung fields.

The dermatology consultant felt the rash was probably the result of a drug eruption, and no treatment was recommended. The second night after admission he fell out of bed, striking the left cheek and lateral canthus. He did not seem to have any residua from this accident. At times he seemed more alert, but then would slip back into his previous listlessness.

On the eighth day after admission he seemed more listless than before, was incontinent, affable and agreeable, but completely disoriented as to time and place. Examination at that time revealed the fundal disc margins to be flat. There was a dark skin discoloration noted in the right upper neck which blanched on pressure, but there were no enlarged cervical nodes or axillary nodes. There was still some restriction of antiflexion of the neck and forced grasping, more marked on the right



than on the left. The neurological examination otherwise was negative.

That evening he became more lethargic, staggering markedly when attempting to walk. The following day he was uncooperative during the examination, and there was some questionable weakness of the left side of the face and an equivocal Babinski response on the left. Abdominal and cremasteric reflexes were absent. A ventriculogram was recommended and was performed on that day. It revealed evidence of obstruction, either in the posterior portion of the third ventricle or at the aqueduct. On the basis of this, a suboccipital craniectomy was carried out. When a catheter was passed into the fourth ventricle, an obstruction was met at a distance of 3 cm. The vermis appeared to be distended, separating the cerebellar hemispheres. A ventricular cisternostomy on the right was carried out, and the patient received 1,000 ml. of blood during the operative procedures.

The following day the patient moved all extremities, responded to his name, and carried out simple commands; vital signs were stable. That evening the patient was found by the nurse to be suffering from severe respiratory difficulty and large amounts of mucous were present in the hypopharynx and tracheobronchial tree. An endotracheal tube was passed, the tracheobronchial tree was aspirated, and the tube was left in place to maintain the airway. At this point the patient was not responsive, and the pupils were dilated and fixed to light.

Urine in the bedside drainage bottle was noted to be very dark and showed albumin and blood on chemical examination, with no bile. Numerous red blood cells were seen microscopically. A blood sample was drawn and the serum was moderately icteric; the Van Den Bergh was reported to be 1.4 mg. per cent. The patient remained unresponsive, with fixed pupils and complete flaccidity. At noon the next day he stopped breathing, was placed in an Emerson respirator, and expired on the evening of that second post-operative day, approximately 50 hours after operation.

#### CLINICAL DISCUSSION

*Dr. Adolph L. Sahs, Neurology:* This 54 year old man presented the clinical picture of severe, progressive organic brain disease. The disease began five months previously with a number of bizarre symptoms.

The possible causes of a situation of this sort are many. There was no reliable history of a head injury which might account for a subdural hematoma or an intracerebral hemorrhage. He did injure himself several days after arrival, but the fall out of bed did not seem to contribute appreciably to his decline.

Various types of infections were included in the differential diagnosis. There is a history of a pulmonary infection. The possibilities of infectious mononucleosis and lymphocytic choriomeningitis

were considered. Furthermore, a low grade meningitis, possibly from an organism such as a pathogenic yeast, was kept in mind. This man had a spinal fluid cell count of 34 per cu. mm. Of these cells, 31 were of the lymphocytic variety. The sugar value of the spinal fluid was not depressed.

The differential diagnosis also included metabolic and toxic disorders. It seems very unlikely that this man had hypothyroidism, diabetes, or other metabolic disease which might have been responsible for his illness. We were unable to obtain a history of the excessive use of alcohol, barbiturates, or bromides.

We did not completely exclude the possibility of degenerative disease. There was no history of a stroke. The retinal vessels were not unusual, and there was no hypertension. With respect to the rare degenerative disorders, it seems very unlikely that a condition such as Alzheimer's or Pick's diseases would progress so rapidly in a period of only five months.

Another possibility was brain tumor, primary or secondary. When I saw this man originally, I thought that his symptoms pointed toward frontal lobe disease. I recorded such phenomena as poor memory, disorientation, urinary incontinence, bilateral spastic signs, and forced grasping. Secondary neoplasms are frequently the source of bizarre neurological phenomena. The incidence of metastases to the brain from primary malignancies of the lung is very high in this clinic. Other possible sources of secondary neoplasm to the brain include carcinoma of the breast, hypernephroma, and malignant melanoma.

During the period of observation on the neurological service, we did not uncover definite evidence which would establish the diagnosis, but the symptoms pointed toward the possibility of a brain tumor.

*Dr. Stephen A. Forbes, Radiology:* A film of the chest shows clear lung fields. Nothing is seen to suggest primary bronchogenic carcinoma. The ventriculograms are missing from the patient's envelope, but the findings are listed in the protocol. A block between the third and fourth ventricles will show dilated lateral and third ventricles without displacement, a moderately dilated aqueduct, and an absence of air in the region of the fourth ventricle. Such a block could be produced by a posterior fossa neoplasm.

*Dr. F. Miles Skultety, Neurosurgery:* A posterior fossa exploration was done, and the cerebellar tonsils were found to be herniated down to just beneath the first cervicle arch and the cerebellar hemispheres were separated by a widely distended vermis.

A catheter was passed via the obex into the fourth ventricle. At 3 cm. from the obex, it met an obstruction and could not be passed farther. At the time it was decided that, rather than attempt to incise the vermis in this man who had very large arteriosclerotic vessels running across the surface,

it would be safer to do a Torkildsen procedure. Therefore, a No. 8 catheter was run from the right lateral ventricle into the posterior fossa to establish a ventriculocisternostomy. At the end of the operation, we were no closer to pathological diagnosis than we were before.

*Dr. Ziffren:* Dr. Skultety, is it your opinion that the death of this patient was due to a mis-matched transfusion?

*Dr. Skultety:* I personally feel that this patient's death was due to respiratory obstruction with hypoxia, which added further burden to the central nervous system that was already incapacitated. From there on, a vicious cycle was set up which eventually led to his demise.

*Dr. Ziffren:* Are there any other questions? Does anyone want to make any comments?

*Dr. Jack M. Layton, Pathology:* At the time of autopsy, malignant melanoma was disseminated to almost all the organs in the body. There were prominent neoplastic deposits in the brain, liver, lungs, kidneys, adrenals, pancreas, bone marrow, prostate, lymph nodes and such less common sites as the heart and spleen.

An interesting feature of the lesions was the extensive necrosis, which I shall mention again in a few minutes. The lesion which was producing the obstruction which Dr. Skultety encountered in the region of the fourth ventricle was metastatic malignant melanoma with massive extravasation of blood into the neoplasm.

In the left frontal lobe, extending caudad a distance of 7 cm., was an old area of infarction, but there was no tumor in the margins of this particular lesion. Beginning 5 cm. from the tip of the right frontal lobe, was an area of recent hemorrhagic infarction. It measured 5 x 2.2 x 2 cm. There was no melanoma in the walls of this particular lesion, and it was probably of three to four days' duration.

I mentioned the necrosis as being of some interest because we aren't accustomed to seeing such massive necrosis in melanomas. In addition to the usual causes of necrosis, we wondered also whether or not the pulmonary infection which he had had some time before may have had something to do with the necrosis of melanoma.

In 1940, Dr. Pack treated a woman who had a malignant melanoma 3 cm. in diameter on her leg and no involvement of regional lymph nodes. The lesion was surgically excised. About two years later, three more nodules appeared on the same leg and were excised. A year later she was bitten by a dog, following which she was given intensive therapy with rabies vaccine. Five and one-half years elapsed before cutaneous melanotic nodules appeared and were removed. For ten years after the appearance of the primary lesion, she continued to live without evidence of recurrence of the tumor. Since this was a rather prolonged remission for melanoma of this type, some of the possible contributory factors were considered, and

it was suggested that perhaps the rabies vaccine had something to do with the remission.

Since then, at least 12 patients with malignant melanoma have been treated with 20 daily injections of Harris rabbit vaccine for rabies and the results have not been such that this will be the treatment of choice in malignant melanoma. Two of these patients, however, did show regressions of the melanomas following treatment. The tumors shrank in size and became soft. The considerable palliation which was achieved for these patients brings one to some interesting observations concerning the effects of viruses on neoplasms. We know that viruses have to have living cells in which to grow. If one could, then, get a virus which would attack these neoplastic cells selectively, one might be able to learn something about neoplasia, and one might also be able to learn something about viral growth.

There are certain neoplasms that have been studied in this regard. One which has been studied, because it lends itself very well to this type of investigation, is the Ehrlich mouse ascites tumor. This is a rather bulky tumor. Mice which have this particular intra-abdominal neoplasm get massive ascites. The neoplastic cells exfoliate into the ascitic fluid, and so by the simple expedient of introducing a suitable needle on a syringe into the abdominal cavity one is very readily able to obtain exfoliated neoplastic cells for study. The neoplasm is not rapidly fatal for mice, so that they may be carried for a fairly long period of time and serial observations made on the progress of the tumor without sacrificing the mice.

In an attempt to find a virus which might attack this particular tumor, several neurotropic viruses were inoculated into mice with the mouse ascites tumor. A virus which showed a very pronounced tendency to destroy these tumor cells was the Bunyamwera. Bunyamwera virus is inoculated intraperitoneally in these mice on the fourth to fifth day after transplantation of Ehrlich ascites tumor, the tumor cells are rapidly destroyed, within 48 hours no neoplastic cells remain, and, in addition, the ascites diminishes rapidly. Between 48 and 60 hours after virus inoculation, no fluid can be obtained. Unfortunately, the mice succumb to the viral infection in 5 to 7 days, but there is a period of time in which we have an abundance of neoplastic cells and a virus which can be handled fairly well. Two main effects are seen in these tumor cells as a result of the viral inoculation. The first effect is on the cells that are not in mitosis—the intermitotic cells. It consists essentially of an increase in parachromatin associated with some chromatolysis and the appearance of small intranuclear "inclusions." The resultant changes in nuclear structure lead to rupture of the nuclear membrane and disintegration of the cell. The second effect on these cells is on those in mitosis. Many of the dividing cells show abnormal fusion of chromosomes in mitosis, and following



this they undergo a type of karyorrhexis and die.

What does this have to do with the case today? Well, it is interesting to speculate, anyway, as to whether the extensive necrosis in this malignant melanoma may have been produced as a result of the pulmonary infection the patient had had shortly before admission here. Perhaps it was a viral disease. We don't know. He did have a diagnosis of a "viral infection," and perhaps the "virus" with which he was afflicted had some effect on his malignant melanoma.

#### SUMMARY OF NECROPSY FINDINGS

At necropsy, malignant melanoma was disseminated to most all organs. Prominent neoplastic deposits were found in the brain, liver, lungs, kidneys, adrenals, pancreas, prostate, bone marrow, lymph nodes, and such less common sites as the spleen and heart. An interesting feature of the lesions was the extensive necrosis of the melanoma.

A subdural hematoma (50 cc.) was present over the right cerebral cortex. Many areas of extravasated blood occurred in the brain tissue.

#### NECROPSY DIAGNOSES

Malignant melanoma, metastatic to brain, liver, kidneys, lymph nodes, bone marrow, adrenals, prostate, pancreas, heart, spleen, and skin.

Ventriculocisternostomy, post-operative.

*Dr. Sahs:* Because we had been involved in a similar situation some months previously, we checked this man over carefully for a malignant melanoma. There was no history of the removal of a skin tumor. He did have a small tumor in his neck. This was a reddish lesion which protruded slightly above the surface. It was possible to make it blanch completely by placing a glass slide on it. This was the only lesion which we were able to demonstrate in his skin.

*Dr. Ziffren:* Are there any questions? Does anyone want to make any remarks?

*Dr. John R. Carter, Pathology:* I would like to ask one question about the urine. On one examination it was noted to be very dark. Is there any more information on that? Was it tested to see if it could have been melanuria?

*Dr. Skultety:* I can't remember now. That urine was so much darker than that which he had been putting out previously that it caused us to draw the blood sample, looking for possible transfusion reaction. It was a very deep amber color. He had had urine considerably lighter than that. It was the change that caused us to look for a late transfusion reaction rather than melanuria.

*Dr. Ziffren:* Dr. Routh, can you help us out on this?

*Dr. Joseph I. Routh, Biochemistry:* I don't believe we saw this patient's urine sample in our laboratory. I could tell you something about melanin in the urine.

Unfortunately, the determination or detection of melanin in urine is not very satisfactory, be-

cause there are probably several types of melanin or melanin-like compounds that appear in the urine. From all evidence—and this has gone back several years—the melanin which occurs in the urine comes from either tyrosine or tryptophan, and melanin is a compound which is very similar to an oxidized dihydroxyindol. This compound may be formed from tryptophan, from dihydroxy-tyrosine, or from dopa. There are mechanisms for the formation of melanin, but I haven't as yet seen a formula for melanin. Also, melanin or some of its compounds may occur in the urine and still not color the urine until it has stood for several hours. Sometimes the oxidation has not proceeded to the extent where the brown pigment is apparent.

The quantitative determination of melanin is very general and non-specific. The addition of ferric chloride and ammonium hydroxide produces a dark brown pigmented material which remains in solution and can be measured in a photoelectric colorimeter. The normal values for melanin excretion by the method used in our laboratory vary from 44-86 mg. per 24 hours. Since there may be interference from pigments other than melanin, the normal values may be too high.

*Dr. Ziffren:* Let me ask you this: Suppose we take a 24 hour sample of an individual who we know has melanoma, and he comes back again. Will we have an accurate enough index to measure whether or not he had a recurrence of melanoma somewhere else in the body?

*Dr. Routh:* I would think so. I'd strongly suspect that if the person had a melanoma and a 24 hour specimen were sent to the laboratory, we could detect a recurrence in melanin excretion.

*Dr. Joseph A. Buchwalter, Surgery:* How high does the value go?

*Dr. Routh:* Well, just recently there was a patient at the V. A. Hospital who excreted 300 mg. of melanin in 24 hours. That is very definitely abnormal. We have been observing an out-patient of Dr. DeGowin's who comes in every two or three weeks; sometimes the urine is dark brown, and sometimes it looks perfectly normal. However, the amount of melanin excreted has shown no relation to the color of the urine.

*Dr. Sahs:* Are there any other sources of melanin?

*Dr. Routh:* You mean, are there cases other than patients with melanin or brown pigment in the urine? I don't know of any other source of melanin in the urine. Probably a normal reasonably small amount of melanin in the urine is present from oxidation of tryptophan and tyrosine.

*Dr. Ziffren:* Are there any other questions? It has been suggested that individuals who have malignant melanoma might derive some benefit from irradiation of the pituitary gland. Dr. Forbes, can you enlighten us on that subject?

*Dr. Forbes:* The treatment of generalized malignant melanoma by irradiation (roentgen) of the pituitary gland has been tried at this hospital,

but without success. A report of apparent success was that of Wigby and Metz<sup>1</sup> from Parkland Hospital, Dallas, in 1939. The case cited was that of a 43-year-old man seen four years after removal of a melanoma from the skin of his face. There had been slow growth of the lesion during the preceding 6 years. One year before admission, he began to notice increasing fatigue and loss of appetite and then the development of numerous subcutaneous nodules. There was also a pulmonary metastasis on x-ray examination of the chest. This portion of the chest was irradiated through anterior and posterior portals without regression of the lesion. The pituitary gland was then irradiated through three portals over a period of three weeks. Great improvement was noted in the patient's well-being. At the conclusion of the treatment the subcutaneous lesions, which on biopsy had proved to be melanoma, had regressed considerably in size. On follow-up biopsy, the lesions were composed of granulomatous tissue with melanin deposition, with apparently no neoplastic cells.

A year later the patient was back at his work. An addendum to this report stated that four more cases of malignant melanoma were subsequently given roentgen irradiation of the pituitary with apparently no effect. The authors called attention to the fact that these all had distant and advanced regional node involvement, whereas the patient first described had no regional node metastases. It was considered that the pituitary secretion might contain some principle necessary for growth and reproduction of melanoblasts.

*Junior student:* I wonder if the recurrences are ever amelanotic when the primary is heavily pigmented?

*Dr. Layton:* The secondary deposits may be relatively amelanotic.

*Dr. Edward E. Mason, Surgery:* Does a lymph node full of melanotic pigment necessarily mean that there are malignant cells in that lymph node?

*Dr. Ziffren:* No. Do you have some comments, Dr. Sahs?

*Dr. Sahs:* Situations such as this present definite problems in management, particularly when tangible evidence of primary or secondary neoplasm is not found. The central nervous system is a site of predilection for metastases of malignant melanoma. The primary lesion may be present in the scalp or in the eye. I have seen two instances in which malignant melanomas arose at the site of a previous operative scar in the neck. In several instances the intrascapular area was the location of the primary lesion.

Malignant melanomas sometimes occur as primary lesions in the leptomeninges, particularly in the posterior fossa.

*Dr. George E. Perret, Neurosurgery:* I also wish

to remind you we may find malignant melanomas in the brain six months or more after a primary lesion has been resected without any symptoms between the time of resection of what was called a wart and the symptoms produced by the metastasis.

*Dr. Ziffren:* Are there any other comments?

*Dr. Henry E. Hamilton, Internal Medicine:* Was this lesion in the neck thought to be melanoma before the man died?

*Dr. Sahs:* I'm not qualified to answer the question. This man was seen in the Dermatology Clinic and was cleared by that division.

*Dr. Robert T. Tidrick, Surgery:* If a bone-marrow aspiration had been done on this man, it might have saved a needless craniotomy, since such an examination may reveal metastatic cells.

*Dr. Frank E. Coburn, Psychiatry:* Dr. Ziffren, I wonder if anyone would like to discuss very briefly the relationship between pigmented moles and melanotic malignancy.

*Dr. Ziffren:* As a general rule, maybe this will help answer your question. We say if an individual has a nevus that changes its character, becomes ulcerated, becomes larger or changes its color, it is wise to excise it and have a microscopic examination of the area. Ordinarily, these changes occur after the age of puberty; it's extremely rare for a malignant change to occur in a prepubertal individual.

## DOCTORS' SECRETARIES MEETINGS

During the month of October, the Iowa State Medical Society, in cooperation with the Blue Cross and Blue Shield organizations, has conducted meetings of physicians' secretaries and office nurses in Clinton, Council Bluffs, Ft. Dodge and Sioux City.

Each of the meetings has started with a dinner, at which the secretaries and office nurses were the guests of Blue Cross and Blue Shield. The programs have consisted of explanations regarding insurance coverages and instructions designed to enable the girls to take insurance paper-work off their doctors' hands. Fundamental public-relations attitudes and procedures have been stressed in graphic fashion, and representatives of the Northwestern Bell Telephone Company have demonstrated the right and wrong ways of talking with patients over the phone.

The State Society offers to schedule other such meetings at the request of county or district groups of doctors.

Help your central office to maintain an accurate mailing list. Send your change of address promptly to the Journal, 529-36th Street, Des Moines 12, Iowa.

1. Wigby, Palmer E. and Metz, M. Hill. Striking Regression of Generalized Subcutaneous and Visceral Metastases of Malignant Melanoma (Melanoblastoma) Following Intensive High Voltage Roentgen Irradiation of the Pituitary Gland. *Amer. Jour. Roent. & Rad. Ther.*, 41:415-419, 1939.



# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
 RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
 MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
 ALLAN G. FELTER, M.D.....Van Meter  
 DANIEL A. GLOMSET, M.D.....Des Moines  
 TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
 JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
 WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
 ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
 EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
 529-36th Street, Des Moines 12

Vol. XLIII      NOVEMBER, 1953      No. 11

## ARE WE GIVING OUR WIVES A BREAK?

The past few years have certainly pointed out to the medical profession the necessity of good public relations if we are to continue to avoid the imposition of socialized medicine. Look what has been accomplished to date, mainly through our own efforts in dealing directly with our patients. But each of us could get help that, so far, we haven't sought with sufficient vigor. That assistance can come from our wives.

There can be no doubt that they want to help us, and it is equally evident that they are in an excellent position to give that help. The doctor's wife is really a partner in his practice, not only because, if his business suffers, she is the first to feel the direct result, but because, in answering his telephone, she frequently plays an important part in establishing good relations with his patients. She can be his very best salesman.

The Auxiliary of the Iowa State Medical Society has only 800 members. Since there are 2,400 members of the Society, that is a meager number indeed. Yet, look what these 800 devoted wives are doing for us: They encourage the development and maintenance of local health groups. They sell subscriptions to *TODAY'S HEALTH* magazine. They provide scholarships for the training of registered nurses and practical nurses. And, above all, they are promoting good public relations.

Yet, there are some county medical societies that still are so unenlightened that they have not sponsored the organization of an auxiliary. It is necessary for the county medical society

to approve the formation of such a group, and the JOURNAL urges that every county society that hasn't done so take steps to correct that deficiency.

Let's give our wives the break they deserve. They will be happy to extend themselves further in the development of their first interest—our welfare and our practices.

## HEART DISEASE INSTITUTE

The first of a series of interesting Heart Disease Institutes will be held at University Hospitals, in Iowa City, on Thursday, November 19, 1953, under the sponsorship of the State Department of Health, the Iowa Heart Association, and the Departments of Internal Medicine and Pediatrics of the University's College of Medicine.

Clinical presentations and discussions will center around the etiology of heart disease in children and young adults, and particular attention will be paid to the effect of acute infections on the heart and circulation.

Physicians of Iowa will find this Institute an opportunity to learn about many aspects of a fascinating medical advance. The possibilities of new methods of treatment for heart disease are seemingly unlimited. We may justly be proud of the record which has already been set by the cardiac team at Iowa City. Through pioneering efforts, the men who compose it have established a reasonable, efficient and cooperative approach to the problem. We look forward to their continued success.

The following is a tabulation of operations on the heart done by Dr. Ehrenhaft and his staff up to October 1, 1953:

Diagnosis	Operations	Deaths	Mortality
Coarctation of the Aorta .....	20	2	10.0%
Patent Ductus Arteriosus .....	53	1	1.7%
Tetralogy of Fallot .....	22	3	13.6%
Mitral Stenosis .....	62	2	3.2%
Constrictive Pericarditis .....	8	0	0.0%
Pulmonary Stenosis .....	6	1	16.7%
Double Aortic Arch .....	6	0	0.0%
Total .....	182	9	4.9%

## SIMPLIFIED CHEMICAL TESTS FOR ELECTROLYTE CONCENTRATION

Recognition of the importance of derangements of electrolyte balance in various diseases has depended, in large part, on quantitative determination of the concentration of salt in blood and other body fluids. These determinations are readily available to the clinician practicing near a well equipped and well staffed laboratory. But the required equipment and skilled technical help are not readily available to others. Further, if the clinical data is to be of use in the management of a specific case, there must be a minimum of elapsed time between the taking of the specimen

and the reporting of the results to the clinician.

This situation has led to the development of rapid and relatively easy methods for the estimation of sodium and chloride levels in urine, blood, or other body fluids. One of the first of these was the Fantus Test<sup>1</sup> for the estimation of the chloride ion concentration in urine. With certain assumptions, an indirect estimate of the sodium content could be made. The principle of this test has been used in an adaptation of this test to serum.<sup>2</sup>

Recently a simple and relatively easy test<sup>3</sup> has been developed for the direct estimation of the concentration of sodium ion in urine. Although the equipment and reagents for this test do not lend themselves to bedside determinations, as is the case in the tests for chlorides, they are still simple enough to be used in any laboratory or doctor's office.

Certainly none of these simplified tests are offered as a substitute for established chemical analysis of blood, urine, or other body fluids. With them, however, the clinician can obtain data with regard to chloride content of gastro-intestinal fluids, sodium and chloride concentrations in the urine, and chloride concentration in the blood serum. Armed with this data, his position in the management of the problems of electrolyte balance at the bedside is considerably strengthened.

1. Fantus, B.: Fluid Postoperatively; Statistical Study. J.A.M.A. 107:14-7, (July 4) 1936.

2. Pritchard, J. A.: A Simplified Method for Estimating Sodium in Urine and in Fluid from the Gastrointestinal Tract. Am. J. Clin. Path. 23:942-5, (Sept.) 1953.

3. Gziou, L. T., and Silverman, J. J., "A Bedside Method for Determining the Urine Chlorides as an Aid in Detecting the Chloride Depletion Syndrome in Patients Receiving Mercurial Diuretics. Am. J. M. Sc. 225:521-4, (May) 1953.

## NARCOTIC PRESCRIPTIONS

It would appear that not all of the members of our profession are aware of their responsibilities under the Harrison (U.S.) Narcotic Act. Please remember that your druggist did not request this law . . . but, he must comply with its requirements. Repeated violations of the law certainly will bring him into difficulties with the Federal Bureau of Narcotics.

An excellent summation of the provisions of the law, both as regards the responsibilities of the physician and as regards the duties of the druggist, appeared as an editorial in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for August 22, 1953, page 1634. If you have not read that editorial, it would be of benefit for you to do so.

In brief, physicians are reminded that they are all likely candidates for the appeals of addicts who are desperate for narcotics. The provisions of the Harrison Act were formulated to prevent those people from obtaining supplies by trickery. A narcotic order received by telephone cannot be delivered until the pharmacist or his manager receives a *written prescription*. The prescription

cannot be mailed or delivered later. Furthermore, a narcotic prescription cannot be refilled; nor can it be signed by anyone other than the physician, who must sign, not type or stamp his name. He cannot even ask his nurse to sign for him. Nor can he sign several blank orders and leave them with a pharmacist to be used later as the need arises. Each prescription must contain the date on which it is written, and the full name and address of the patient, as well as the name, address and registry number of the prescribing physician.

Please cooperate with your druggist. Though it is incumbent on him to obey the law, the fact that he depends upon you for a considerable portion of his business may make him reluctant to insist. Your compliance will save embarrassment both for you and for him, and the problem is too serious to permit impatience or intolerance on your part.

## TWINS AND TRIPLETS

According to DeLee's textbook on obstetrics, twin births occur once in 85.2 cases; triplets, once in 7,628.7 cases. Some similar ratio would appear to hold as regards the occurrence of certain pathologies as seen in the physician's office. How frequently it seems to happen, that after we have seen a patient with a particular rare condition, another or even a third patient appears in the waiting room with the same entity! For instance, it may be years from the time we see a patient with bipartate sesamoid which has become symptomatic until we see another. But then, within a week, a third patient so afflicted will appear. A doctor may see three patients suffering from tularemia within a month, and then see no more for several years. Similarly, a doctor may encounter a rare type of fracture and then be called upon to treat one or two more other patients with the same disability in rapid succession.

We are indeed fortunate in the practice of medicine that no given type of ailment, even for the specialist, demands daily attention to the exclusion of medical rarities. For rarities are the spice of one's practice. How gratifying it is for each of us to recognize a medical oddity immediately, in spite of the fact that it has been fifteen or twenty years since he encountered anything similar. And then, for good measure and, it seems, just to keep him on his diagnostic toes, some obscure law of averages allows another patient or two with the same complaint to come to him. We don't know whom to thank, but that phenomenon does help keep the practice of medicine a joy to its followers.

**It's Your A.M.A.**, a brief, well-illustrated pamphlet presenting many basic facts about the Association, is now being mailed to all members. Be sure to read it from cover to cover.



## MINUTES OF MEETINGS OF STATE SOCIETY OFFICERS AND COMMITTEES

### COMMITTEE ON MEDICAL SERVICE

September 15, 1953

The Committee on Medical Service met in the central office Tuesday morning, September 15, 1953, with the following persons present: Dr. Fred Sternagel of West Des Moines, Dr. F. D. McCarthy of Sioux City, Dr. C. H. Stark of Cedar Rapids, and Dr. Martin I. Olsen, Mr. Don Taylor and Miss Mary L. McCord of Des Moines. The meeting was called to order at 10:30 a.m., and the problem of medical care for veterans was discussed thoroughly. Dr. Sternagel reported on the meeting which the AMA had called in Chicago, September 1, and it was agreed that our committee on veterans' affairs should be increased in size and activated to be available in arriving at some solution.

Dr. Stark reported on activities of his subcommittee on hospital-professional relations, saying it had not been very active, but had received some requests for staff help at mental hospitals.

Dr. Olsen reported on the many problems confronting Blue Shield. Utilization is very high; the claim load varies greatly so that it makes processing variable; and the problem of division of fees still exists. The committee felt it might be advisable to contact the Iowa Association of Accident and Health Underwriters to see if adoption of uniform reporting blanks might be speeded in Iowa.

Mr. Edw. W. Hamilton showed those present the manual for doctors' secretaries which he is preparing, and he was commended. Meeting adjourned at 3:00 p.m.

### MEETING OF THE EXECUTIVE COUNCIL

October 1, 1953

The Executive Council of the Iowa State Medical Society met in the office Thursday morning, October 1, 1953, with the following persons present: Dr. R. N. Larimer, Dr. G. V. Caughlan, Dr. A. B. Phillips, Dr. L. A. Coffin, Dr. J. W. Billingsley, Dr. W. L. Downing, Dr. A. F. Fritchen, Dr. C. O. Adams, Dr. P. W. Brecher, Dr. E. M. Kersten, Dr. O. D. Wolfe, Dr. C. A. Boice, Dr. I. K. Sayre, Dr. Oscar Alden, Dr. George Braunlich, Mr. I. W. Myers, Mr. Don Taylor, Dr. R. D. Bernard and Miss Mary L. McCord. Absent were Drs. N. B. Anderson, M. T. Morton, E. F. Van Epps, E. B. Howell, and D. C. Conzett.

Meeting was called to order at 10:25 by Dr. Larimer, and the Principles of Medical Ethics were discussed. The group voted to carry our resolution to the House of Delegates of the AMA and try to obtain its approval.

The Executive Council also discussed misuse of Society letterheads, a public relations program inaugurated by Michigan, and the pension plan

for Society employees. It then voted to approve and adopt the proposed pension plan and make it effective as of October 1, 1953.

Don Taylor mentioned the coming Presidents and Secretaries Conference on October 25 and asked the Councilors to publicize it. The Council also discussed some problems brought up by the Bureau of Internal Revenue, but took no action. Meeting adjourned at 1:30 p.m.

### MEETING OF THE COUNCIL

October 1, 1953

The Council met following the meeting of the Executive Council and discussed the use of itemized fee schedules, stressing the public relations import inherent in them. It also heard from Mr. B. E. Stolpe, Director of Promotion and Public Relations for the Des Moines REGISTER, on the Tama Indian situation, and from Dr. Bernard on the preceptor program. The next meeting of the Council was set for Thursday, November 19, at which time the Osteopathic Committee will be asked to report. Meeting adjourned at 3:15 p.m.

### MEETING OF THE BOARD OF TRUSTEES

October 1, 1953

The Board of Trustees met in the office following the Executive Council meeting, with all members present. The meeting was called to order about 2:00 p.m., the minutes were read and approved; bills were authorized; travel to four coming meetings was authorized; details of office management were discussed; the resignation of Dr. Morton as Councilor because of health was accepted with regret and the executive secretary instructed to determine the wishes of the district for a successor; appointments were made to increase committees as necessary; and the purchase of \$10,000 of government bonds was ordered. The meeting adjourned at 3:10 p.m., after November 5 had been chosen as the date for the next meeting.

---

## DEDICATION OF THE PHILIP CHARLES JEANS PEDIATRIC LIBRARY, STATE UNIVERSITY OF IOWA

The annual postgraduate conference in Pediatrics was held at the State University of Iowa, September 16 and 17, in conjunction with the fall meeting of the Iowa Pediatric Society. One session was devoted to a memorial program for Doctor Philip C. Jeans. Speakers at the program were Dr. Jean V. Cooke, Professor Emeritus, Department of Pediatrics, Washington University, St. Louis; Dr. L. A. Maynard, Director of the School of Nutrition, Cornell University, Ithaca, N.Y., and Chairman of the Food and Nutrition Board of the National Research Council; Dr. J. R. Wilson, Secretary of the Council on Foods and Nutrition, American Medical Association. Dr.

Jeans' long service with various advisory boards national in scope and his many contributions to the work of these groups was given special emphasis, as this phase of his professional life was less known within the state than was his career as clinician, educator and investigator.

The following eulogy of Dr. Jeans was read by Dr. Lee Forrest Hill.

"I appreciate greatly the honor of being included among those invited to pay tribute to Dr. Jeans on this occasion.

"Dr. Jeans' death came as a shock and a surprise to his many pediatric friends the world over. He died in Panama City at the age of 69, of coronary thrombosis, while on a lecture tour under the auspices of the World Health Organization. Thus came to an end one of the notable careers of the scientific world and of pediatrics. While Dr. Jeans' activities have ceased, his accomplishments will continue indefinitely as a befitting and living memorial.

"Dr. Jeans was born in Hillsboro, Ohio, January 3, 1883. He attended the University of Kansas, graduating in 1904, and received his M.D. degree from Johns Hopkins in 1909. In the next four years he took specialized training in pediatrics, serving internships in seven hospitals.

"In 1913 he went to Washington University in St. Louis as Assistant in pediatrics, and advanced to Associate Professor by 1924. Then he came to Iowa as Professor and Head of the Department of Pediatrics, a position he retained until his retirement in June, 1952. He was, however, continued on in the capacity of Professor Emeritus, and it is certain he looked forward to many happy uninterrupted hours of work in the research laboratory—an occupation he loved.

"Dr. Jeans' best known research contributions were in the field of nutrition. His published requirements of nutritional essentials for infants and children, particularly calcium, phosphorus and vitamins A and D, have provided standards in current use throughout the world. He was the author of several books. *INFANT NUTRITION*, originally written by Dr. William McKim Marriott, was revised and rewritten by Dr. Jeans. His text *CLINICAL PEDIATRICS FOR NURSES* went through four editions, and he was working on the fifth at the time of his death.

"He was a member of the American Pediatric Society, serving on the Council from 1938 to 1946, and as President in 1950-51. His scientific achievements and special knowledge resulted in his being a member of numerous committees and societies. At the time of his death he was the ranking member of the Council on Foods of the American Medical Association, where he had served continuously since 1930. He had also been a member of the Food and Nutrition Board of the National Research Council since 1940, and was a member of its Steering Committee. In 1951, he was made Vice-Chairman. Other organizations of

which he was a member include the Nutrition Foundation, American Institute of Nutrition, Society for Experimental Biology and Medicine, Society for Research in Child Development, Society for Pediatric Research, and the Bureau of Human Nutrition and Home Economics. He was a member of Nu Sigma Nu, Alpha Omega Alpha and Sigma Xi fraternities.

"In 1946, he, with Dr. Genevieve Stearns, received the Borden Award for outstanding work in the field of nutrition. Shortly after World War I, Dr. Jeans was asked by the Red Cross to help establish Child Welfare Stations in the Balkans, and in 1950, the U. S. Public Health Service sent him to Hawaii to lecture on nutrition. He was on a similar mission in Panama at the time of his death.

"Dr. Jeans was married to Grace Whittier Cushing on December 22, 1914. Surviving him, besides his widow, are one son, Robert Philip Jeans of Los Angeles, California, and one brother, Howard S. Jeans of Altadena, California.

"I should like today to turn my remarks to the local scene and say a few words about Dr. Jeans on behalf of the Iowa Pediatric Society.

"First, I think, the Society would want me to express the pride we all feel in having had Dr. Jeans as one of our members for so many years. Somehow, we feel that a little of his pre-eminence in the scientific world rubs off on us because of our mutual membership. We are proud, too, of the impressive accomplishments of one of our members—accomplishments that have so deservedly earned him a place in the 'hall of fame' among the pediatricians of the world.

"Then I think our Society would want me to say a word about what Dr. Jeans has meant to pediatrics in Iowa. When he first came here, there were but a handful of pediatricians in the whole state. Today we have a very respectable organization and many of the members received their training under him. He was one of the organizers of the State Pediatric Society. A busy man though he was, he always had time to sit with us and help us work out our plans. It was characteristic of him to say little at such meetings, while the rest of us got ourselves wound up in all kinds of entanglements. Then, he, with a few quiet sentences which went directly to the heart of the problem, would get us straightened out again. I am sure there is unanimous agreement among us that the standards of pediatric practice in Iowa are higher today because of the influence of Dr. Jeans, not only as an educator and a researchist, but also as a top-notch clinician.

"Finally, I think our group would want me to say a word about him as an individual. I don't think Dr. Jeans ever said an unkind thing or did an unkind act toward anyone, especially his professional conferees. He wasn't the easiest person in the world to become acquainted with, as many of you know. But once the barriers were broken



down, he was a delightful companion and a firm friend. He had a tremendous capacity for inspiring loyalty among his associates and among the residents who trained under him. Everyone respected him, not only for his ability as a scientist and a physician, but for his straight-forwardness, his integrity and his kindness.

"The Iowa State Pediatric Society is grateful that it had the privilege of having had one of the nation's foremost pediatricians among its members."

Dr. Charles D. May then dedicated the Pediatric Library in Dr. Jeans' name. The text of the dedicatory plaque reads as follows:

"This library  
is dedicated in appreciation of  
Philip Charles Jeans, M.D.  
Professor and Head  
Department of Pediatrics  
1924-1952

A wise clinician, thorough investigator,  
humble teacher, and understanding friend."

#### JOINT MEETING OF IOWA AND NEBRASKA HEART ASSOCIATIONS

The Fall Scientific Conference of the Nebraska Heart Association and the Iowa Heart Association is to be held at the Blackstone Hotel, 36th and Farnam, Omaha, on Saturday, November 7, 1953. Arrangements are being made to assure formal post-graduate credit to members of the Iowa Academy of General Practice who attend the sessions.

Registration will be at 9:00 A.M., and the morning meeting, commencing at 9:30 will include the following papers: "Review of Physiological Abnormalities in Congestive Heart Failure," by Dr. James W. Culbertson, of S.U.I., "Maintenance of Fluid and Electrolyte Balance in Cardiac Failure," by Dr. H. J. Lehnhoff, of the University of Nebraska, "Physiological Aspects in the Management of Hypertensive Therapy," by Dr. C. M. Wilhelmj, of Creighton University, "Hypertension: Mode of Action of Newer Therapeutic Agents," by Dr. W. M. Kirkendall, of the V.A. Hospital in Iowa City, and "The Biology of Arteriosclerosis," by Dr. E. Cowles Andrus, of Johns Hopkins University.

Following a luncheon, at which Nebraska and Iowa members will renew acquaintances, the conference will resume at 2:00 P.M. The afternoon papers are to be: "Rheumatic Fever," by Dr. T. Duckett Jones, of the Helen Hay Whitney Foundation, "Anticoagulants," by Dr. E. M. Walsh, of Creighton University, and "Management of Certain Cardiac Emergencies," by Dr. L. E. January, of S.U.I. For the question-and-answer period which is scheduled to begin at 4:15 P.M., Dr. F. G. Gillick will be moderator and Drs. E. C. Andrus, T. D. Jones, W. B. Bean, B. B. Oberst and H. J. Smith will compose the panel.

Wives and guests, as well as the doctors in attendance at the conference are invited to the cocktail party and dinner, at 5:30 P.M. And in the evening there is to be a public meeting on the topic "Know Your Heart."

#### S.U.I. HEART INSTITUTE

The Heart Institute to be held on Thursday afternoon and evening, November 19, 1953, at the College of Medicine of the State University of Iowa, is under the joint sponsorship of the Division of Heart Disease Control of the State Department of Health and the Departments of Pediatrics and Internal Medicine of the University. The program is as follows:

- 1:30—2:30 Dr. Lewis Thomas, Department of Medicine, University of Minnesota, Minneapolis: "The Present Status of Research on the Pathogenesis of Rheumatic Fever."
- 2:30—3:30 Dr. Charles May, Department of Pediatrics, State University of Iowa, Iowa City: "Rheumatoid Arthritis in Children."
- 3:30—5:30 Inspection of the Cardiovascular Laboratory, State University of Iowa.
- 7:30—8:30 Dr. Richard Ebert, Department of Medicine, Northwestern University Medical School, Chicago: "Physiology of the Circulation in Acute Infections."
- 8:30—9:30 Dr. William Bean, Department of Internal Medicine, State University of Iowa, Iowa City: "Some Clinical Problems in Aortic Stenosis."

#### 1954 W.M.A. MEETING IN ROME

The World Medical Association will hold its 1954 meeting in Rome, September 26 to October 2. Since 1954 is a Holy Year, there will be heavy demands for transportation and hotel reservations. Any A.M.A. member who wishes to attend this meeting should write to the World Medical Association, 345 East 46th Street, New York 17, as soon as possible. The W.M.A. will secure transportation and hotel reservations, and will help with the planning of side tours in Europe. No charge is made of the physician for this service.

#### PROFESSIONAL MEETINGS

The editors of the JOURNAL will be glad to print announcements of all professional meetings that will be of interest to physicians in a considerable part of Iowa. Data on such meetings must reach the JOURNAL's office no later than the tenth of the preceding month.

## *General Manager's Page*

A glance at the facts presented in the report of the Division of Hospital Services of the Iowa Department of Health clearly demonstrates that in many hospitals in Iowa the percentage of occupancy is still below that necessary to make them financial successes. The problem is a complex one, and a discussion of the many factors which enter into it would require more space than this page provides.

But there is one phase of the hospital situation in which your state office is prepared to give immediate assistance. We are in position to render service to hospitals which are formulating by-laws, constitutions and staff rules. The State Society has been of great help to many hospitals in the early stages of their development, and we have worked closely with the Iowa Hospital Association. This service is augmented by the inclusion of Mr. Barney Myers as consultant.

Why not consult your State Society when you desire such service?

*R. D. Bernard, M.D.*

*General Manager*

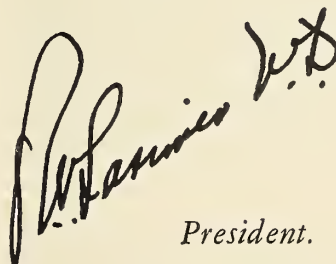


## *President's Page*

We thank the County Medical Society Officers who took the interest and trouble to attend the recent Presidents' and Secretaries' Conference. The members of the various committees as well as the officers of the Society spend considerable time on their various duties and they welcomed this opportunity of explaining their activities. It is only when the work of the State Society is brought to a local level that the effort becomes worth while and unless you, a member, have some idea of the various problems facing your officers, the solutions many times seem to be unnecessarily complicated and perhaps unsatisfying.

Every doctor has received a Public Relations manual from the American Medical Association. It is full of suggestions, particularly to younger physicians, as to the development of sound Public Relations between the physician and his patients. Even the older doctor will find the booklet full of stimulating ideas.

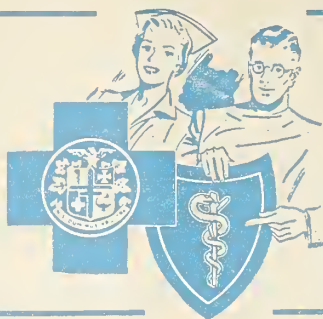
Physicians in general are reminded of the Interim Meeting of the American Medical Association which will be held at St. Louis, the first four days of December. These meetings are always arranged to be of interest to general practitioners, and the meeting this year will be no exception.

A handwritten signature in dark ink, appearing to read "W. J. Harrison". The signature is written in a cursive, flowing style. To the right of the main signature, there are some additional initials or a small flourish that look like "W.J.".

*President.*

---

BLUE CROSS



BLUE SHIELD

---



## NEW BLUE SHIELD CONTRACT PROTECTS INFANTS

The new Blue Shield contract provides payment for hospitalized medical care for a specific diagnosed illness when an infant becomes 10 days of age. Not all Blue Shield members have this new coverage at this time, but eventually medical care at 10 days of age will be uniform. We suggest that, when there is question concerning this coverage, the doctor submit the claim and let Blue Shield determine the member's status.

\* \* \* \*

The Blue Cross semi-private Comprehensive contract covers an infant from birth on its parent's contract. The Blue Cross Standard contract provides for the case of a new born while the mother is a bed patient in the hospital and eligible for care. When a child becomes 90 days of age, it

is then eligible for care in its own right on its parent's family contract.

Special Note: The medical advisors of Blue Shield have consulted with numerous physicians in order to establish a policy for the payment of pudental block anesthetics. Following these conferences, the advisors have ruled that a pudental block which is used as an anesthetic is local in nature and should not, therefore, be allowed by Blue Shield. However, Blue Shield will pay for a pudental nerve block when it is used as a therapeutic measure.

### BLUE SHIELD MONTHLY STATISTICS

November 1, 1953

Blue Shield Members (Estimated) ..	426,192
Claims Processed for Payment .....	11,079
Amount Paid in Claims .....	\$351,132.22



# THE JOURNAL BOOK SHELF

## BOOKS RECEIVED

- RESPIRATORY DISEASES AND ALLERGY: NEW METHOD OF APPROACH, by Josef S. Smul, M.D. (New York, The Medical Library Company, 1953. \$2.75).
- CLINICAL MANAGEMENT OF BEHAVIOR DISORDERS IN CHILDREN, by Harry Bakwin, M.D., and Ruth Morris Bakwin, M.D. (Philadelphia, The W. B. Saunders Co., 1953. \$10.00).
- MODERN CLINICAL PSYCHIATRY, by Arthur P. Noyes, M.D. (Philadelphia, The W. B. Saunders Co., 1953. \$7.00).
- SURGERY OF THE BILIARY TRACT, PANCREAS & SPLEEN, by Charles B. Puestow, M.D. (Chicago, The Year Book Publishers, 1953. \$9.00).

## BOOK REVIEWS

- THE PSYCHOLOGY AND PSYCHOTHERAPY OF OTTO RANK by Fay B. Karpf, Ph.D. New York (Philosophical Library, 1953. \$3.00).

This short volume will be considered a welcome addition to the literature by those who have a background understanding of the thinking of Freud, Jung, Adler, and Rank. The author, whose personal association with Rank extended for a period of five years before his untimely death, is in an authoritative position to clarify and evaluate his ideas. Rank's ideas command a central position with the Philadelphia group of social workers, due especially to the efforts of Dr. Jesse Taft.

The author first paints a brief picture of Rank's close relationship with Freud—a relationship which persisted for twenty years before Rank's "The Trauma of Birth" forced a rift. She briefly presents some of Freud's, Jung's, and Adler's ideas as a "necessary background for the appreciation of Rank's developing views."

The major portion of the book concerns Rank's "Will or Dynamic Relationship Therapy" and the distinctive aspects of his personality theory.

Briefly, his "Will psychology" is an "Ego psychology," where Ego or self dominates the Id, rather than the reverse as Freudian doctrine suggests. (This optimistic approach has probably led to the concept of "growth" hypothesized by Dr. Carl Rogers and the vigorous group of "client centered" therapists.)

The author, while acknowledging Rank's Freudian background, does service in showing that Rank's broad cultural approach, as well as his assignment of more weight to the role of women or the mother, were necessary modifications of Freud's more constricted approach.

Disciples of Freud, Jung, and Adler as well as "neo-Freudians" will probably cavil about the author's advocacy of Rank at the expense of the others. Though the author intended this to be a short book, it is unfortunate that this volume was not expanded before release and made more inclusive so that people without previous analytic background could derive substantial benefit from the author's wide and valuable experience.

This book is not recommended as reading for the general practitioner unless he has a background of psychoanalytic concepts.

Martin J. Krakauer, *Clinical Psychologist.*  
Herbert C. Merillat, *M.D.*

- SURGICAL PATHOLOGY, by Lauren V. Ackerman, M.D. (St. Louis, C. V. Mosby Co., 1953. \$14.50).

This book has its greatest value in clinical medicine. It stresses adequately the common surgical lesions and mentions the rarer conditions, and the book is intended, according to its stated purpose, not as a replacement of standard text books, but rather, as a supplement.

It is well written and easily read. There are 913 illustrations which are of great benefit in understanding the various sections. Certain chapters have been written by authors particularly qualified in their respective fields, e.g., the chapters on the Skin and Central Nervous System.

Special emphasis is placed on the role of the biopsy in diagnosis. The various malignancies are discussed in relation to the best form of treatment and the general outlook for the patient. Proper stress is also placed on gross pathology and its recognition.

Each chapter contains a bibliography, listing references for recent and more detailed literature on particular subject matter. Of the many interestingly written chapters which cover the entire field of surgical pathology, two chapters are especially impressive: Chapter VIII, on the thyroid, and Chapter XVIII, on the breast. These chapters were written from the author's personal experience. The pages on thyroid neoplasms discuss the benign tumors, and gross and microscopic evidence of malignancy in an adenoma. The role of a frozen section in thyroid surgery is discussed, and the chapter then goes on to correlate the clinicopathology for the practicing physician.

The chapter on the breast brings out the scope of radical breast surgery and points out, for example, that the high point of the axilla should be identified by a metal tag or silk suture so that the specimen may be more easily oriented by the pathologist. The illustrations in this section are particularly instructive since they emphasize the different breast conditions.

This book has been written for medical students as well as for physicians who are intimately concerned with surgical pathology. Although this book would certainly interest the student, its primary value is to physicians, particularly physicians who deal with surgical problems. It is not intended to be a voluminous reference text, and although it contains 819 pages, many of these are illustrations.

The correlation between pathology and accepted adequate treatment is generally good. The book does not stress symptoms and findings or techniques. It is a refreshing and interesting treatment of the surgical pathological field.

P. Carlisle, *M.D.*

### Correction

The bibliographical data on Dr. Franklin A. Kyser's *THERAPEUTICS IN INTERNAL MEDICINE* published in the September *JOURNAL* were incorrect. The book is published by Hoeber-Harper, of New York City, the date is 1953, and the price is \$15.00.

---

# Iowa Academy of General Practice

*President*—Paul F. Chesnut, M.D., Winterset

*President-Elect*—Frank D. McCarthy, M.D., Sioux City

*Vice-President*—Dean C. Snyder, M.D., DeWitt

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## POSTGRADUATE COURSE

Hotel Warden

Fort Dodge

November 12, 1953

- 9:00 a.m. Registration
- 10:00 a.m. "Advances in the Treatment of Congestive Heart Failure"  
Charles H. Scheifley, M.D., Mayo Clinic, Rochester, Minnesota
- 11:00 a.m. "Prostatism"  
Andrew D. Mitchell, M.D., University of Kansas, Kansas City, Kansas
- 12:15 p.m. Luncheon  
Address: Dwight Rider, Fort Dodge, Judge of District Court and Member of the Iowa State Board of Education
- 2:15 p.m. "Management of the Patient with Heart Disease in Need of Surgery"  
Dr. Scheifley
- 3:15 p.m. "Pediatric Urological Problems"  
Dr. Mitchell

Again our one-day postgraduate program is presenting two excellent speakers with appropriate and interesting subject matter. At the luncheon, Judge Rider, of the Board of Education, will give an excellent address in which we will all be interested.

Fort Dodge is not too far from Des Moines, and we hope to see the men who always attend our meetings as well as many more from the Northwest corner of the state for whom the trip will not be too long. If this meeting is successful, it will become a practice of the Iowa Academy to move some of its meetings to the four corners of the state. It will also be possible to invite the members of the local medical societies to be our guests, thus letting more men become acquainted with the functions of the Iowa Academy and see firsthand the type of programs we present. In this instance, the physicians who compose the Webster County Medical Society have been invited to be our guests, and we hope to see many of them. All these meetings are designed to present programs acceptable for formal postgraduate credit for our members, but we also hope any other interested doctors in the state, whether specialists or general practitioners, will feel free to attend.

## 1953 ANNUAL MEETING

Our Annual Meeting in Des Moines, on September 24 and 25, was very successful. We have heard many favorable comments about the scientific program. Nine hours of formal postgraduate credit will be allowed. The banquet and entertainment were enjoyed by 125 members and their wives. Mr. Charles Hovey, who represented the AAGP Group Insurance Plan, reported enthusiastic response to his presence. He was able to discuss problems with several of the members, and he even took away some applications. Unfortunately, our AAGP Group Insurance plan has not been well enough publicized to make it possible for most of our members to understand its advantages. The underlying idea is to underwrite financial security for our members at more reasonable cost than can be obtained in the open insurance market. Investigate it, if you have not already done so.

Those attending the meeting were very generous with their pledges and contributions to the Permanent Building Fund. The Iowa total prior to the meeting was \$2,340. At the meeting over \$2,500 more was added to that sum, which makes a much better showing for Iowa Academy members. We shall all be very proud of our part in the new home of the American Academy of General Practice.

The new officers, Board of Directors, and Liaison Representatives will meet very soon to appoint the new committees and begin work on next winter's scientific program schedule. To obtain good speakers, we must contact them nearly a year ahead. As a rule it takes several months to set up such a schedule.

We are looking forward to an active and productive new year. Help us every way you can, for this is your General Practice organization in your state.

---

## NEW MEMBERS

Although our membership continues to increase steadily, we feel that many high calibre general practitioners in Iowa still do not belong to the Academy. Two men whom we talked to the other day had application blanks in their desks but had

(Continued on page 483)



---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Publications Chairman*, Dexter, Iowa

*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*President-Elect*—MRS. LESTER R. HEGG, Rock Valley

*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines

*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

## LINES FROM THE PRESIDENT

The smell of burning leaves is on the air, now. And the harvest moon seems permanently caught in the branches of the far elm tree.

Fall is a brief, beauteous season, a kind of interlude between the heat of summer and the cold fury of winter. The drifting leaf smoke, the intense stillness and peace of warm days, the red and gold of the trees and the white, moonlit nights are soothing to the senses and evoke in each of us a different emotional response, as though nature, with lavish gifts of incense and vivid paintings, invites us to sit a while and enjoy her handiwork, to meditate, to open our hearts and our minds, and in tribute for this gift of beauty resolve to become, perhaps, a somewhat better person, a little more aware of our responsibilities.

The responsibilities of a doctor's wife grow with her knowledge and awareness. Her acceptance of those responsibilities is a measure of her intelligence and her concern for the preservation of rights which the "progressives" among us would abrogate.

Doctors' wives can serve best as members of an auxiliary. They serve their communities, their husbands and themselves by meeting together for friendly discussion of issues; by working on committees and projects which the doctors consider essential and by enthusiastic support of their officers. Indifference and lack of interest never are found in an auxiliary when the members are active and informed.

This is an era of organization. The days of "lone wolfling" are long past. And those who remain outside of and indifferent to their own groups are adding pressure to the adverse winds which are blowing against the house of medicine.

An article in TODAY'S HEALTH, March, 1953, by Paul de Kruif, reprinted in READER'S DIGEST, stated: "Doctors themselves agree that the medical profession has slipped in the public confidence."

Why has it slipped? What can be done to restore trust in the doctor? These are questions of the utmost concern to every doctor's wife. For some wives have played an important role in the disintegration of public esteem by their withdrawal from the life of their communities; by

their emphasis on things—possessions; by their demands for more regular hours.

Thousands of doctors now have regular hours—no house calls, no night work. Since they have business hours, can the public be censured for thinking of them as businessmen?

For those doctors' wives who are not concerned, it is time to stop, look and listen; time to give a little time and thought to the auxiliary which is carrying the burden of education and service. Instead of reaching in and taking out all of the good life made possible by our doctors, it is time to put something back in.

All of the old socialized-medicine bills are back. Sometime when we are not alert one will be slipped through Congress. For we have left-wing Republicans as well as left-wing Democrats who would put medicine in a government strait jacket.

And then:

The moving finger writes; and having writ  
Moves on: nor all your piety nor wit  
Shall lure it back to cancel half a line,  
Nor all your tears wash out a word of it.

Omar Khayyam

MRS. EDW. B. HOEVEN

---

## COUNTY AUXILIARY ACTIVITIES

### Black Hawk

The Black Hawk County Medical Auxiliary Board members met at the home of the president, Mrs. Russell Gerard, in Waterloo, to make plans for the fall meetings. The first one was held at the home of Mrs. W. W. Henderson, Cedar Falls, on September 15.

Plans have been made for a meeting of the Sixth District in Waterloo in October with Mrs. Fred Gerken, Councilor. She was appointed luncheon chairman. One or more of the state officers will attend this meeting.

November 5, 6, and 7, will again be devoted to sponsoring the Craft and Hobby Show at Black's Department Store, in Waterloo.

MRS. CRAIG ELLYSON

### Boone

One of the colorful social events of the autumn season was the annual tea given by the members of the Women's Auxiliary of the Boone County

Medical Society, Sept. 22, 1953. All Senior girls of Boone County who are interested in nurses' training were invited to the home and garden of Mrs. B. T. Whitaker, 800 Park Ave. Seventy-five guests from schools in Ogden, Napier, Madrid, Jordan, Pilot Mound, Sacred Heart of Boone and the Boone High School attended.

Tea was served from a table covered with a beautiful cutwork-embroidered tablecloth centered with a long arrangement of miniature glads and roses in shades of apricot and hosta foliage. The table was lighted with ivory tapers in silver candelabra and appointed with silver services. Mrs. Sue Crane of Ogden and Mrs. Joel Carlson of Boone presided at the tea and coffee services. Elsewhere were arrangements of roses, delphinium and white tube roses from the garden of Mrs. Whitaker. All floral arrangements were made by Mrs. Whitaker.

The program was held in the west part of the middle perennial garden with those participating speaking from the terrace. Mrs. W. H. Longworth, President of the Auxiliary, introduced Miss Colleen Casserly and Miss Joyce Matt, Boone girls who are students at Creighton Memorial and St. Joseph's Hospital, schools of nursing, in Omaha, Nebraska. They gave interesting and informative talks on their experiences in nurses training, after which they conducted a question and answer period. Mrs. Joel Carlson read a short article on "Nurses and Marriage" written by Dr. Theodore R. VanDellen, dean of Northwestern Medical College.

Guests attending the tea, in addition to the honored seniors and auxiliary were: Mrs. Joel Carlson; Miss Vaughn Thornburgh; Miss Betty Simon; Miss Catherine Hall; Mrs. Erickson, City Nurse; Sister Mary Aquilina and Sister Mary Gregory, of Sacred Heart; and Mrs. Sue Crane, of Ogden.

Mrs. R. A. Mandersheid and Mrs. Don Michaelson were garden hostesses. Mrs. R. E. Gunn and Mrs. W. H. Longworth assisted as parlor hostesses. The committee on arrangements was Mrs. T. E. Kane, chairman; Mrs. J. C. Herman; Mrs. F. N. Johnson; Mrs. R. L. Wicks; and Mrs. B. T. Whitaker. Appropriate gifts were presented to the two speakers from Omaha.

MRS. DON MICHAELSON

#### Dallas-Guthrie

The Dallas-Guthrie Medical Auxiliary met September 17, in the Library at Dexter after dinner with the doctors at The Elms. Ten members and one visitor were present. Promotion of *TODAY'S HEALTH* was the main topic of discussion. Mrs. William C. Wildberger, president, appointed Mrs. Howard W. Smith, Mrs. Frank Wilkie and Mrs. William Seidler, Jr., as the nominating committee. Mrs. Keith M. Chapler gave a fine book review of *Medical Biographies of 33 Famous Personages*, by Marshall Dale, M.D.

MRS. CHARLES E. PORTER

#### Page

Members of the Page County Medical Auxiliary were hostesses to the wives of physicians from southwest Iowa attending the second annual fall program of the Page County Medical Society. A buffet supper served at the home of Mrs. Charles Flynn was followed by an evening of bridge and visiting. There were 23 members and guests present.

MRS. KARL CATLIN

#### DISTRICT AUXILIARIES

##### District III

The Sioux County Medical Auxiliary was hostess to a one o'clock luncheon at the Sheldon Country Club, on September 23, 1953, for the doctors' wives of District III.

Thirty-three ladies were present, twelve of them guests. Four state officers were able to attend: Mrs. Edward Hoeven, of Ottumwa; Mrs. Lester Hegg, of Rock Valley; Mrs. Charles H. Flynn, of Clarinda; and Mrs. Dean King, of Spencer. Seven counties out of nine in the district were represented.

Following a lovely luncheon, enjoyed by all, Dr. W. L. Downing, of Le Mars, a trustee of the Iowa State Medical Society, spoke. He explained how the money from the state dues is distributed to maintain the State Medical Society. All wives were interested, for most of us were not aware of the ways in which the funds are used.

Mrs. Hoeven then gave a very informative talk. She touched on all phases of the state and local auxiliary programs and stressed the importance of each. Mrs. Flynn gave a clarifying report on the importance of having all counties organized. There were representatives present from two unorganized counties, and we hope that her talk will be an encouragement to them.

Mrs. King, the state program chairman, gave us an outline of the state schedule for the year. Unfortunately, the time was so limited that she was unable to go into detail, but she urged us all to attend the state meeting.

Miss Lillian Eidsness, of Sheldon, gave a report of the planning and building of the community hospital of which she is superintendent, which contained valuable information for those of us who are interested in building.

The purpose of the meeting was to permit doctors' wives to form a wider acquaintance than county gatherings make possible, and to stimulate the organization of county auxiliaries where there are none. By bringing state officers to the meeting, the planning committee facilitated the broadening both of our understanding of Auxiliary purposes and of our outlook.

MRS. E. B. GROSSMANN  
Councilor, District III



## District X

The Union County Medical Auxiliary acted as hostesses for the Tenth District meeting which was held at the Hotel Iowana, in Creston, on September 8. Following a one o'clock luncheon in the Coffee Shoppe, the business meeting was held on the mezzanine, with Mrs. Harold R. Peggs, District Councilor, presiding.

Mrs. Edward B. Hoeven, of Ottumwa, State President, gave an excellent informative talk on the complete scope of Auxiliary work and its importance in relation to the A.M.A. and to the Iowa State Medical Society. Mrs. Charles H. Flynn, of Clarinda, State First Vice President and Organization Chairman, discussed state goals for 1953-54.

A discussion and a question-and-answer period followed the talks, and much enthusiasm about Auxiliary work was manifested.

Before disbanding, the group enjoyed a tour through the new medical clinic.

MRS. CHARLES H. FLYNN  
MRS. HAROLD J. PEGGS

## Iowa Academy of General Practice

(Continued from page 480)

not gotten around to filling them out and sending them in. This causes us to wonder how many more such instances there are. We hope to close those gaps this coming year, and the officers and members of the Board are completing plans to do so. We feel that if one man is made responsible for personally contacting eligible prospects, it will take very little of his time, and Academy membership, with all its privileges, will become what it should be. Our Liaison Representatives will call on some of you to help them with this little duty, and we hope you will discharge it willingly and promptly.

The time will come when membership in our organization may be somewhat more complicated than it is at present. It may be invitational—to fill vacancies or something like that. We don't know yet. But we want the good general practitioners of our state to belong with us. The Academy is rapidly growing in stature on the National level, and we want Iowa to be "in there."

## 1953 PRECEPTEE AWARD

As mentioned on this page some time ago, the Iowa Academy of General Practice offered an award of \$200 to the preceptee who wrote the best critique on "The Preceptorship—an Assessment of Its Value in Medical Education." We are pleased to announce that we had 20 essays presented, many of which were excellent. After much consideration, the Board of Directors chose the one submitted by Billy D. Howell, of Cumberland, Iowa, and presented the award to him at our annual banquet. It is to be published in an early issue of the JOURNAL.

## EXAM FOR U.S.P.H.S. APPOINTMENTS

A competitive examination for appointment of medical officers to the regular corps of the U. S. Public Health Service will be held at a number of points throughout the country on February 2, 3, and 4, 1954. Applications must be received no later than December 24, 1953.

Appointments, for those who successfully complete the examination, can be expected within nine months. Those men currently serving internships will be placed at the completion of their interne service. The starting grades are Assistant Surgeon (equivalent to Navy rank of Lt. j.g.) and Senior Assistant Surgeon (equivalent of Lieutenant). Beginning pay for a physician with dependents is \$6,017 or \$6,918. Appointments are permanent and provide opportunities for a life career with regular promotions.

Requirements for the grade of Assistant Surgeon are at least seven years of collegiate and professional training and appropriate experience. For the grade of Senior Assistant Surgeon, they are at least ten years of collegiate and professional training and appropriate experience.

Application forms and additional information may be obtained by writing to the Chief, Division of Commissioned Officers, Public Health Service, Department of Health, Education and Welfare, Washington 25, D. C.

## SPEAKERS' BUREAU SCHEDULES

## RADIO

WSUI—IOWA CITY

Tuesday at 11:45 a.m.

## "PANORAMA OF RESEARCH"

November 3 ..... Chemotherapy  
November 10 Atomic Energy in Medical Research  
November 17 ..... Cosmetic Plastic Surgery  
November 24 ..... Neurosurgery

WOI—AMES

Thursday at 11:15 a.m.

## "THE STORY OF SURGERY"

November 5 ..... How Do You Know When  
You Need Surgery?

## "MAIN STREET MEDICINE"

November 12.. Rural Community Health Center  
November 19. Human Tuberculosis Accreditation  
November 26.....Doctors' Emergency Service

## TELEVISION

WOI-TV AMES

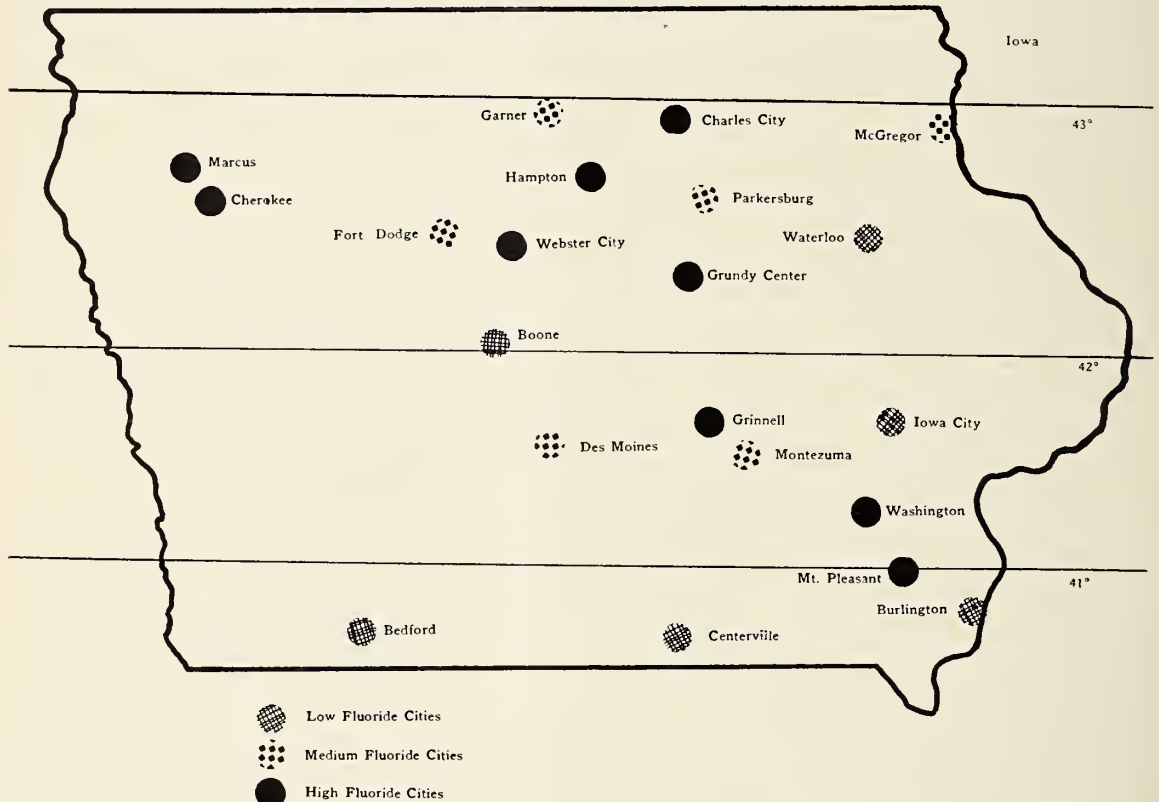
Friday at 8:00 p.m.

November 6 ..... Prenatal Care  
November 13..... "Know Your Pathologist"  
November 20..... "Is Your Child Cross-Eyed?"  
November 27..... "Blood Transfusion"

# STATE DEPARTMENT OF HEALTH

*Edmund G. Zimmerman*  
COMMISSIONER

CITIES SELECTED FOR THE IOWA DENTAL STUDY 1953



## RESEARCH DRAMATIZES NEED FOR FLUORIDATION

Children in 21 cities of Iowa were given dental examinations this year to determine the effect of fluoride in water on dental caries.

In cooperation with the U. S. Public Health Service, the Division of Dental Hygiene of the Iowa State Department of Health, directed by Charles H. Henshaw, D.D.S., conducted uniform examinations of 7,555 children in 21 Iowa communities having varying amounts of fluoride in the public water supply. The children were continuous residents and had used public water since birth.

On the basis of average fluoride determinations taken in the communities between 1937 and 1953, the towns were divided into three groups: those with an average fluoride determination of about .2 parts per million, or the low-fluoride group; communities having about .5 parts per million of

fluoride, the intermediate group; and those with an average of 1.1 parts per million, the group with the maximum recommended level of fluoride.

The study showed that permanent teeth were least decayed in the cities with natural fluoride of about 1.1 parts per million. Out of every 100 children, only 4 youngsters were caries-free in the "low fluoride" towns, whereas 37 were caries-free in the "high fluoride" communities.

In the "low fluoride" group of towns, an average of 8.5 teeth per child were decayed, missing or filled by the age of 14 years. In the "high fluoride" group, an average of 2.3 teeth were decayed, missing or filled at the same age.

There was also a marked difference between the low and high fluoride cities, in the number of teeth lost due to caries. Among the 14-year-olds studied, one out of every two in the low-fluoride



cities had lost a tooth, whereas only one out of every ten in the high fluoride cities had lost one.

#### CONCLUSIONS

**Decayed Teeth:** In the Iowa localities surveyed, there were *five times* as many decayed teeth among the children in low fluoride cities as among those in the high fluoride areas.

**Filled Teeth:** There were *four times* as many filled teeth in the low-fluoride cities as in the high-fluoride towns.

**Missing Teeth:** There were *three times* as many missing teeth among children in low-fluoride cities as in the high-fluoride cities.

According to national figures, controlled fluoridation programs in communities where the fluoride level is naturally low can reduce tooth decay 65 per cent.

The House of Delegates of the Iowa State Medical Society passed a resolution April 30, 1952, approving the principle of fluoridation of municipal water supplies under the supervision of the Division of Health Engineering of the Iowa State Department of Health.

#### MORBIDITY REPORT

Disease	Sept. 1953	Aug. 1953	Sept. 1952	Most Cases From These Counties
Brucellosis ..	24	43	30	Clay 3, Keokuk 2, Marion 3, Wood 2. Others scattered 1 to a county
Chickenpox ..	17	80	20	Scattered
Diphtheria ..	2	1	1	Shelby, Cerro Gordo
Infectious Hepatitis ..	99	109	17	Polk, Van Buren, Warren
Measles .....	19	96	22	Des Moines, Dubuque
Meningococcus Meningitis ..	2	4	1	Cerro Gordo, Polk
Mumps .....	51	111	25	Boone, Des Moines, Dubuque
Poliomyelitis	123	249	1,034	Clinton 7, Polk 14, Scott 7, Wood 8. Others less than 7 scattered: 24 Paralytic, 69 non-paralytic, 30 not specified.
Rabies in Animals	5	10	11	Calhoun, Cedar, Lucas, Polk, Scott
Scarlet Fever	8	8	10	Scattered
Smallpox .....	0	0	0	
Typhoid fever	3	0	5	Linn, Pottawattamie, Scott
Whooping Cough .....	22	22	20	Clinton, Polk
Tuberculosis	44	71	51	For the state
Gonorrhea ..	61	58	47	For the state
Syphilis .....	147	160	93	For the state
Psittacosis ...	2	1	-	Des Moines (delayed case), Cerro Gordo
Salmonellosis	1	31	-	Clayton
Malaria .....	2	3	-	Polk, Scott

#### SUMMARY OF THE DENTAL CARIES EXPERIENCE OF THE CHILDREN EXAMINED IN THE DENTAL STUDY OF 21 IOWA CITIES, 1953.

CLASSIFICATION OF CITIES	AVG. F. CONCENTRATION IN P. P. M.	NUMBER OF CHILDREN EXAMINED	CLASSIFICATION OF DENTAL CARIES EXPERIENCE	SUMMARY OF THE DENTAL CARIES EXPERIENCE IN THE PERMANENT TEETH OF 7,555 CHILDREN ACCORDING TO AGE, CLASSIFIED BY CITIES HAVING LOW, MIDDLE AND HIGH NATURAL FLUORIDE-BEARING WATER SUPPLIES								
				AGE IN YEARS LAST BIRTHDAY								
				6	7	8	9	10	11	12	13	14
				AVERAGE NUMBER OF PERMANENT TEETH AFFECTED PER CHILD								
THE LOW FLUORIDE CITIES	.2	3,742	DECAYED	.52	.76	.84	1.05	1.10	1.33	1.78	2.28	2.53
			MISSING	-	.03	.03	.08	.16	.15	.21	.30	.49
			FILLED	.28	.80	1.44	1.91	2.53	2.79	3.81	4.73	5.43
			TOTAL	.80	1.59	2.31	3.04	3.79	4.27	5.80	7.31	8.45
THE MIDDLE FLUORIDE CITIES	.5	2,226	DECAYED	.36	.58	.59	.87	.83	.88	1.13	1.55	1.35
			MISSING	-	.02	.01	.03	.07	.08	.16	.23	.27
			FILLED	.09	.41	.89	1.10	1.53	1.77	2.36	2.69	3.53
			TOTAL	.45	1.01	1.49	2.00	2.43	2.73	3.65	4.47	5.15
THE HIGH FLUORIDE CITIES	1.1	1,587	DECAYED	.12	.26	.32	.39	.25	.30	.36	.45	.43
			MISSING	-	-	.01	-	.02	.03	.12	.07	.12
			FILLED	.07	.24	.55	.91	1.37	1.53	1.67	2.51	1.79
			TOTAL	.19	.50	.87	1.30	1.64	1.86	2.15	3.03	2.34

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Calhoun

At a meeting held at the Brower Hotel, in Rockwell City, on October 1, the Calhoun County Medical Society heard a history of the Society delivered by Dr. P. W. Van Metre.

### Dallas-Guthrie

Dr. John A. Gustafson, of Des Moines, spoke on "Newer Concepts in Cardiac Surgery" at the September 24 meeting of the Dallas-Guthrie Medical Society.

### Johnson

On October 7, Dr. Leland E. Stilwell, of the Iowa City V.A. Hospital, addressed the Johnson County Medical Society on the subject "Fact and Fancy About the Veterans Administration."

### Linn

At the Linn County Medical Society meeting on October 8, Dr. James C. Cain, of Rochester, Minnesota, spoke on "The Differential Diagnosis of Mild Painless Jaundice." His paper was discussed by Dr. Wm. B. Bean, of Iowa City.

### Page

At the September 16 meeting of the Page County Medical Society, held at the Clarinda Country Club, Dr. J. W. Waugh, Dr. Fordyce Heilman and Dr. J. M. Stickney, all of Rochester, Minnesota, spoke, respectively, on surgery, antibiotics and leukemias. The meeting occupied both the afternoon and evening.

### Pottawattamie

The Iowa-Nebraska Medical Assembly, held in Council Bluffs on September 22, heard Dr. Charles M. Wilhelmj, of Creighton University, Dr. Sara M. Jordan, of the Lahey Clinic, in Boston, and Dr. Waltman Walters, of the Mayo Clinic, in a symposium on peptic ulcer. Members of the Pottawattamie County Medical Society were hosts.

### Scott

Dr. Richard B. Capps, of Chicago, addressed the Scott County Medical Society on Tuesday,

October 6, on "The Diagnosis and Management of Viral Hepatitis."

### Wapello

At the meeting of the Wapello County Medical Society, held at the Ottumwa Hospital on October 6, Dr. Raymond J. Jackman, head of the department of proctology at the Mayo Clinic, spoke on symptoms, diagnosis and treatment of lesions of the lower colon.

### Woodbury

"Newer Medical Technics in Therapy of Hypertension" was the subject on which Dr. W. M. Kirkendall, of University Hospitals, Iowa City, addressed the Woodbury County Medical Society on September 17, at the Mayfair Hotel, in Sioux City. About 70 members were present.

## PERSONALS

**Dr. Robert H. Horton** has opened an office for the practice of medicine and surgery in Algona.

**Dr. H. H. Perman**, of Forest City, has reentered the Navy and has been assigned surgical duty at a hospital in Japan. He will serve between 12 and 17 months.

After a two-year tour of duty with the Air Force, **Dr. J. F. Vincent** has resumed his general practice in Fort Dodge. He has been stationed at Randolph Field, Texas, and Langley Field, Virginia.

**Dr. Burns Byram** recently associated himself with **Dr. G. W. Howe**, in Marengo. Since his graduation from the College of Medicine at S.U.I., he has served an internship at Tripler Army Hospital, in Hawaii.

**Dr. Margaret Loseke** has become the associate of **Dr. H. M. Andersen** in medical practice at Strawberry Point. She graduated from the College of Medicine at S.U.I. in 1951, and since then has interned and served a year's residency in pathology at King's County Hospital, in Brooklyn, New York.

**Dr. Thomas J. Dorsey**, a 1952 graduate of the



College of Medicine at S.U.I., has joined his father in medical practice at Fort Dodge. He interned at Fresno, California.

**Dr. John Heffron** has moved his practice from Marengo to Anamosa.

**Dr. Murwyn L. Hicks**, who practiced at Dubuque from 1947 to 1951 and since then has held a residency at University Hospitals, in Iowa City, has accepted an appointment as instructor in anesthesiology at the Indiana University School of Medicine, in Indianapolis.

Following three years' service as flight surgeon in the Navy, **Dr. John Fickel** has opened an office in Red Oak. He is a 1949 graduate of the College of Medicine at S.U.I. and interned at St. Luke's Hospital, in Duluth, Minnesota.

**Dr. Donald P. Shumacher** has joined the staff of the Rohlf Memorial Clinic, at Waverly. Most recently, he has been a resident in anesthesiology at University Hospitals, in Iowa City.

In part, to join his son, who, with his family, has been there for seven years, **Dr. C. E. Chenoweth** has moved his eye, ear, nose and throat practice from Mason City to Anchorage, Alaska.

**Dr. B. C. Bridge**, a 1950 graduate of the College of Medicine at S.U.I., has formed an association with **Dr. George Canady**, at Jefferson. Since his internship at St. Luke's Hospital, in Duluth, Minnesota, Dr. Bridge has served two years with the Navy, in Japan.

After 47 years of practice at Correctionville, **Dr. H. A. Smith** has retired. He and his wife plan to live henceforth in Spokane, Washington.

**Dr. H. L. Klemme** has left Belle Plaine to open a practice in Yellville, Arkansas. A 14-bed hospital there, which is now being built, will be under his supervision.

The Scott County Medical Society, in cooperation with the Davenport newspapers, is sponsoring physicians' forums, at which four doctors will undertake to answer questions submitted by the public in advance. **Dr. Harry B. Weinberg** is chairman of the committee that is in charge of the proj-

ect, and the topics for the first four meetings are blood pressure, diet, cancer and rheumatic fever.

**Dr. W. E. Foley, Jr.**, who was recently discharged from the Air Force, has resumed his practice of obstetrics and gynecology in Davenport.

## DEATHS

**Dr. Fred Lloyd Wells**, 85, former medical director of the Equitable Life Insurance Company of Iowa and a life member of the Iowa State Medical Society, died on September 17 at the Iowa Methodist Hospital, in Des Moines, after an illness of two weeks.

**Dr. George Melville Crabb**, 74, a life member of the Iowa State Medical Society, died at his home in Mason City following a heart attack on Wednesday September 17. From 1920 until quite recently, he was associated with the Park Hospital Clinic there.

**Dr. John Lewis Fry**, 72, who practiced at Kalona for 30 years prior to his retirement in 1947, died at a rest home in Columbus Junction on September 16.

**Dr. Don Sheridan Challed**, 48, of Cedar Rapids, died on September 14 at St. Luke's Hospital there.

**Dr. Henry Charles Schmitz**, 70, a Des Moines eye, ear, nose and throat specialist for 37 years, died at Mercy Hospital there, on September 27, after an illness of several months.

**Dr. James Wesley Doles**, 44, a psychiatrist on the staff of the U. S. Veterans Hospital at Knoxville since 1939, died at the V.A. Hospital in Des Moines on September 22 after a six months' illness.

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of October 10, 1953

Ackerman, J. H., Clarksville (Atlanta, Georgia) ....	Sr. Asst. Surgeon, U.S.P.H.S.
Arnold, K. E., Sioux City (Port Hueneme, Calif.) .....	Lt. (j.g.), U.S.N.R.
Bartholomew, R. D., Lake City (Walnut Creek, Calif.) .....	Lt. (j.g.), U.S.N.R.
Benton, J. S., Des Moines.....	1st Lt., A.U.S.
Bogle, W. C., Marion (Great Lakes, Ill.) .....	Lt., U.S.N.R.
Braatlien, N. T., Des Moines (Rock Island, Ill.) .....	1st Lt., U.S.A.F.
Brennan, J. E., Des Moines (Camp Pendleton, Calif.) .....	Lt., U.S.N.R.

Broman, J. A., Maquoketa (Ft. Sill, Okla.)	Capt., A.U.S.
Buzan, E. F., Des Moines (Yuma, Arizona)	
Christensen, J. R., Eagle Grove (Battle Creek, Mich.)	Lt., A.U.S.
Cline, H. L., Iowa City (Denver, Colorado)	A.U.S.
Couchman, P. G., Des Moines (Battle Creek, Mich.)	1st Lt., U.S.A.F.
Daut, R. V., Davenport (Westover Field, Massachusetts)	Capt., U.S.A.F.
Davidson, M. C., Emmetsburg (El Paso, Tex.)	Col., A.U.S.
Donahoe, J. F., Fort Dodge (Des Moines, Iowa)	1st Lt., A.U.S.
Dooly, J. E., Fort Dodge (Pleasanton, Calif.)	Capt., U.S.A.F.
Dunseth, W. R., Kellogg (APO San Francisco, Calif.)	USAF
Eckhardt, R. D., Iowa City (Portsmouth, Virginia)	Lt., U.S.N.R.
Ehmke, Bruce C., Iowa City (Hot Springs, Arkansas)	1st Lt., A.U.S.
Field, C. A., Cresco (Ft. Sam Houston, Tex.)	Capt., A.U.S.
Garred, J. L., Whiting (San Diego, Calif.)	U.S.N.R.
Garred, W. P., Dow City	
Giles, F. E., Cresco (Ft. Sam Houston, Tex.)	A.U.S.
Godbey, M. E., Mt. Pleasant (Gunter A.F.B., Montgomery, Ala)	1st Lt., U.S.A.F.
Haskell, J. G., Reinbeck	
Hickman, D. M., Indianola (Alexandria, Louisiana)	1st Lt., U.S.A.F.
Isham, R. B., Osage	U.S.N.R.
Iwen, G. W., Iowa City	
Jenkins, H. F., Ogden (Randolph A.F.B., Texas)	U.S.A.F.
Johnson, A. A., Jr., Council Bluffs (Fort Worth, Texas)	Capt., U.S.A.F.
Johnson, M. H., Iowa City (APO New York, N. Y.)	Capt., A.U.S.
Johnson, W. A., Emmetsburg (Corona, California)	Lt., U.S.N.R.
Judiesch, K. J., Iowa City (Ft. Sam Houston, Tex.)	1st Lt., A.U.S.
Kenney, B. E., Woodbine (Raleigh, North Carolina)	1st Lt., U.S.A.F.
Kruse, R. H., Conrad (Pearl Harbor, T. H.)	Lt., U.S.N.R.
Kuehn, W. G., Clarinda (A.P.O. San Francisco, Calif.)	Lt., U.S.N.R.
Kuehnle, G. R., Dubuque (Baton Rouge, La.)	
Kurth, R. J., Waterloo (Minneapolis, Minn.)	Capt., U.S.A.F.
Larson, Erling, Jr., Des Moines (Indianapolis, Indiana)	Lt., U.S.N.R.
Lawler, Matthew P., Des Moines (Corona, California)	U.S.N.
Leiter, E. R. K., Des Moines (Bangor, Me.)	Capt., U.S.A.F.
McMahon, A. E., Jr., Des Moines (Omaha, Nebraska)	U.S.N.R.
Martins, J. K., Waterloo (Bayonne, N. J.)	Lt., U.S.N.R.
Maxwell, J. R., Iowa City (Ft. Sam Houston, Tex.)	1st Lt., A.U.S.
Middleton, W. H., Central City (Bethesda, Maryland)	U.S.N.R.
Montgomery, A. E., Jefferson (Phoenixville, Pa.)	Lt. Col., A.U.S.
Nielsen, G. E., Des Moines (Topeka, Kan.)	1st Lt., U.S.A.F.
Paul, R. E., Des Moines (FPO San Francisco, Calif.)	Lt., U.S.N.R.
Perman, Harvey H., Forest City (Yokasuka, Japan)	U.S.N.
Peterson, L. G., Holstein (Camp Kilmer, N. J.)	A.U.S.
Pfaff, R. A., Dubuque (Camp Pendleton, Calif.)	Lt., U.S.N.R.
Pfeiffer, D. W., McGregor (Ft. Sam Houston, Texas)	A.U.S.
Prendergast, L. J., Iowa City (Oceanside, California)	U.S.N.R.
Province, Wm., Jr., Dubuque (Long Beach, Calif.)	U.S.N.R.
Puntenney, A. W., Boone (Portsmouth, Va.)	Lt., U.S.N.R.
Rhode, M. C., Iowa City (Philadelphia, Pa.)	
Saunders, R. J., Colfax (APO San Francisco, Calif.)	1st Lt., U.S.A.F.
Schlichtemeier, E. O., Peterson (FPO San Francisco, Calif.)	Lt., U.S.N.R.
Shaffer, F. J., Iowa City	Col., U.S.A.F.
Shuldberg, Arthur, Des Moines (Gunter AFB, Ala.)	1st Lt., U.S.A.F.
Sinton, D. W., Iowa City (Colorado Springs, Colorado)	A.U.S.
Smith, C. B., Iowa City (Bowling Green, Ky.)	Capt., A.U.S.
Sphonheimer, L. N., Donnellson (Mountain Home AFB, Idaho)	1st Lt., U.S.A.F.
Stivers, T. W., Des Moines (Hutchinson, Kansas)	Lt. (jg) U.S.N.R.
Stutsman, R. E., Washington (Miami, Fla.)	Cmdr., U.S.N.
Sugioka, Kenneth, Iowa City (Long Island, N. Y.)	A.U.S.
Theilen, E. O., Iowa City (Washington, D. C.)	Capt. A.U.S.
Thompson, J. W., Ames (Camp Breckinridge, Kentucky)	Capt., A.U.S.
Thornton, F. E., Des Moines (Portsmouth, Va.)	Lt. Cmdr., U.S.N.R.
Troxel, J. F., Cedar Rapids (APO New York, N. Y.)	1st Lt., A.U.S.
Uchiyama, J. K., Des Moines (Wichita Falls, Texas)	1st Lt., U.S.A.F.
von Lackum, L. S., Oelwein (Great Lakes, Ill.)	Lt., U.S.N.R.
Voorhees, P. H., Ottumwa (Jamaica, N. Y.)	U.S.N.R.
Wall, J. M., Boone (Gunter AFB, Ala.)	1st Lt., U.S.A.F.
Walker, J. R., Waterloo (Bethesda, Maryland)	Lt., U.S.N.R.
Walston, J. H., Graettinger (Lackland A.F.B., Texas)	1st Lt., U.S.A.F.
Westly, J. S., Mason City (F.P.O., New York City)	Lt., U.S.N.R.
Wiedemeier, J. L., Sioux City (APO San Francisco, Calif.)	1st Lt., A.U.S.
*Wilkins, D. S., Iowa City (APO San Francisco, Calif.)	Capt., A.U.S.
Witte, H. J., Marathon (San Francisco, Calif.)	Lt. Col., A.U.S.
Young, R. A., Clarion (Ft. Sam Houston, Tex.)	Capt., A.U.S.
Zeilenga, R. H., Orange City (Madison, Wisc.)	1st Lt., U.S.A.F.



# *The* JOURNAL

*of the*

## Iowa State Medical Society

COPYRIGHT, 1953, BY IOWA STATE MEDICAL SOCIETY

Vol. XLIII

DES MOINES, IOWA, DECEMBER, 1953

No. 12

### MANAGEMENT OF BENIGN LESIONS OF THE COMMON DUCT

WARREN H. COLE, M.D.\*  
CHICAGO, ILLINOIS

IN THIS PRESENTATION I shall limit my discussion to obstruction in infancy, stone in the common duct, and obstruction at the sphincter of Oddi. As will be discussed later, there is considerable controversy as to whether spasm (i.e., dyskinesia) or fibrosis of the sphincter is the etiologic factor in the latter lesion.

#### OBSTRUCTION OF THE COMMON DUCT IN INFANCY

Obstructive jaundice in infancy is not extremely infrequent, and may be one of several types. Most of these are of congenital origin, being caused by atresia or complete absence of the ducts. In a few instances the obstruction is caused by a "mucous plug." When no gallbladder or ducts are visible outside the liver, there will rarely be any inside the liver. It is my opinion that in such cases there is actually an agenesis of ducts rather than a simple atresia. In our hospital we have amputated the left lobe of the liver in several infants in an endeavor to find some dilated ducts to anastomose to a loop of intestine. However, in none of these infants have we found a duct draining bile, and accordingly have not found one large enough to anastomose to the intestinal tract. These findings corroborate the suggestion that agenesis rather than atresia is the cause of the difficulty in these cases.

Occasionally, a common duct, and perhaps a gallbladder will be found outside the liver. Often the cystic duct is obstructed, and the gallbladder contains only bile-stained mucus. The area where the cystic and common ducts are located normally should be inspected closely. If there is doubt about patency of the cystic and common ducts, the gallbladder should be aspirated and should be injected with physiologic saline stained with methylene blue; if a duct is present and patent, the column of stained solution can be seen progressing down-

ward to the duodenum. Rarely, the cystic duct is absent and there is no connection between the gallbladder and common duct. If the cystic duct appears blocked, but a common duct is found, the latter is injected to find out where the obstruction, if any, is located. Actually the patency of the common duct can be tested throughout its entire length by injection of diluted methylene-blue solution, because it can be seen in the duodenum itself if the solution has progressed that far. If doubt exists, the duodenum can be aspirated with a clean syringe and needle, and the tiny opening closed with a 00000 silk suture.

The author has observed 2 or 3 cases in which the obstruction was caused by adhesions (presumably congenital) at the posterosuperior portion of the duodenum. In these cases, blunt dissection released these adhesions. Proof of efficacy of dissection in these cases was obvious because before dissection, stained saline injected into the gallbladder entered the common duct but did not enter the duodenum, whereas after dissection, the fluid entered the duodenum readily.

When an extrahepatic duct containing bile is found, but an atresia of the distal end exists, some type of anastomosis to the intestinal tract will be necessary. If the gallbladder connects with its cystic duct to a patent proximal common duct, it is usually preferable to use the gallbladder for the anastomosis to the intestinal tract. If the proximal stump of common duct is very much dilated, or if the cystic duct is rudimentary and perhaps very narrow, then the stump of common duct should be used. Although it would appear desirable to anastomose the gallbladder or proximal common duct to a defunctionized loop of intestine, such as a Roux Y arm of jejunum, there is ample evidence (Gross<sup>1</sup>) that in infants, anastomoses of the gallbladder or common duct to the duodenum or pylorus functions without any deleterious effects of reflux.

On certain occasions, obstruction of the duct in infancy will be caused by a mucous plug. In a study of 84 patients under 12 years of age having jaundice, Gerrish and Cole<sup>2</sup> noted that slightly over one half had non-surgical jaundice. Of the 41 patients having surgical jaundice, 61 per cent had

\* From the Department of Surgery, University of Illinois College of Medicine and the Illinois Research Hospitals, Chicago, Illinois.

congenital atresia. They found inspissated bile in 7.3 per cent (3 cases). All of these babies with obstruction due to inspissated bile were Negro babies, whereas none of the babies with congenital atresia were Negroes. If obstruction by inspissated bile is suspected, administration of bile salts by mouth accompanied by a trial with 25 per cent solution of magnesium sulphate by mouth should be initiated.

#### STONES IN THE COMMON DUCT

**Incidence.**—There is considerable difference of opinion relative to the incidence of stones in the common duct, and the incidence with which the common duct should be opened. For example, Cattell<sup>3</sup> reports that in 1,104 cholecystectomies performed at the Lahey Clinic the common duct was explored in 45.7 per cent of cases, and stones were found in 36.7 per cent of this group, or 16.8 per cent of the total (see Table 1). In contrast to this, Glenn<sup>4</sup> reports that in 2,472 cholecystectomies he and associates explored the common duct in only 10.5 per cent of cases, finding stones in 69.1 per cent, or 7.2 per cent of the total number of cases. Glenn was quite worried about this marked discrepancy and made a follow up of 100 consecutive patients having cholecystectomy more than 10 years previous to his study. In this group, 7 had symptoms which led to exploration of the duct, but stones were found in only 4. The author takes a stand somewhat in between Cattell's and Glenn's. In a study of 211 consecutive patients having cholecystectomy at Illinois Research Hospital, Harridge and Helsby<sup>8</sup> report that we explored the duct in 19 per cent of cases and found stones in 9 per cent of the total group.

TABLE 1  
INCIDENCE OF COMMON DUCT EXPLORATION  
COMBINED WITH CHOLECYSTECTOMY

	No. of Cholecys- tectomies	Cases in Which Explora- tion was Done, %	% of Cases in Which Explora- tion Was Done	% of Total
Cattell 1942-1945.....	1,104	45.7	36.7	16.8
Walters <sup>5</sup> 1946.....	1,259	24.0	50.0	12.0
McLaughlin and Kleager <sup>6</sup> 1950.....	230	30.7	33.8	10.0
Grove <sup>7</sup> 1950.....	850	16.5	46	7.6
Glenn 1939-1950.....	2,472	10.5	69.1	7.2
Harridge and Helsby <sup>8</sup> 1952 (Illinois Re- search Hospital).....	211	19	61	9.0

**Diagnosis.**—The classical manifestations of stones in the common duct are pain in the epigastrium or right upper quadrant, followed in about 48 hours by jaundice and acholic stools. However, it must be remembered that not all patients with stones in the common duct are jaundiced. For example, McKittrick and Wilson<sup>9</sup> found that jaundice was absent in 45 per cent of patients having stones in the common duct. The pain is usually located in the epigastrium slightly to the right of the midline and



Fig. 1. This cholangiogram was taken 6 weeks following cholecystectomy and choledochostomy for stones in the common duct. The patient was jaundiced at the time of operation. The jaundice disappeared but stools remained acholic and the cholangiogram reveals complete blockage. A few weeks later another cholangiogram revealed a patent sphincter. The explanation in this patient lies in associated pancreatitis which was noted at the time of choledochostomy; the head of the pancreas was distinctly indurated and enlarged.

commonly radiates posteriorly. Occasionally vomiting accompanies the pain.

Important in the differential diagnosis is differentiation from carcinoma of the ampulla of Vater (because of similarity of manifestation) and from virus hepatitis because of the serious damage that might be done to a patient with the latter disease if operation should erroneously be performed. About 15 or 20 per cent of patients with stones in the common duct have no pain, and perhaps a slightly higher percentage of patients with carcinoma of the ampulla of Vater. The important differentiating feature is that in the latter disease, blood is almost always present in the stool, whereas it is only rarely found when there are stones in the common duct. A careful gastro-intestinal series occasionally reveals a deformity of the duodenum in carcinoma of the ampulla of Vater. In virus hepatitis, pain is rarely present, except occasionally when liver enlargement is prominent. Stools are usually acholic for 10 to 14 days in virus hepatitis. Of more importance from the standpoint of differentiation is the fact that in patients with symptoms so severe as to produce jaundice, liver function tests are usually positive. For these tests, I prefer the thymol turbidity test, alkaline phosphatase test, the cephalin flocculation test and, in



the later stages of the disease, observation on the blood protein for possible reversal of the albumin globulin ratio.

No one of these tests is so reliable as to be sufficient in itself. Therefore it is usually desirable to do three tests. Under such circumstances, differentiation of hepatitis caused by virus can usually be made from other lesions causing jaundice. Differentiation of stones in the duct from carcinoma of head of the pancreas can usually be made because in the early stages of the latter, pain is rarely present. Moreover, once the stool becomes acholic in a patient with a pancreatic carcinoma, it very rarely becomes cholic again, unless a corrective operation has been performed. The intermittency of cholic and acholic stools in patients with stones in the common duct is well known.

*Indications for opening the common duct.*—Opinions differ somewhat as to indications for opening the duct, but certain indications are absolute, such as palpable stone in the duct, or dilatation of the duct in the pressure of jaundice. If symptoms of biliary disease are present, significant dilatation of the duct is a fairly strong indication. Jaundice is an indication for opening the duct, but only after intrahepatic disease has been ruled out as the cause of the jaundice. Thickening of the wall of the common duct is often an indication, most often

when accompanied by some dilatation. Dilatation of the duct is particularly considered an indication for opening the duct if small stones are present in the gallbladder and the cystic duct is large.

*Operative considerations.*—The technic of choledochostomy is particularly important because there is so much danger of leaving stones in the common duct. When palpation is begun, the finger should first palpate the proximal portion of the duct near the hilus because stones may be forced upward into the intrahepatic ducts. This complication happened to me once, and I was unable to get the stone out, presumably because it passed into a duct traversing the liver at an angle, thus making the stone scoop of little value. We had to subject this patient to another operation.

After an opening has been made in the duct, the scoop is inserted and pressed firmly against the posterior wall of the duct, so that the end of the scoop does not push stones ahead of it. Numerous attempts should be made to find stones in the proximal as well as distal duct. I prefer to use a long, narrow scoop which is reasonably flat so that there is less likelihood of pushing stones up and down the duct ahead of the scoop. Some authors prefer to perform a cholangiogram on the operating table before the duct is open; others do the cholangiogram at the end of the operation. Occasionally I resort to a cholangiogram just before closing the duct, particularly if I am uncertain as to whether nodularity in the head of the pancreas may be caused by stones or pancreas. I have not utilized cholangiography before opening the duct.

After all stones have been removed, I prefer to insert a T tube for drainage, primarily because of the danger of leakage of bile through the suture line. The suture closing the duct around the T tube should be of catgut to avoid the possibility of penetration of a non-absorbable suture through the wall into the lumen of the duct. If the catgut suture should penetrate into the lumen, it would be absorbed long before stone formation would develop.

*Postoperative considerations.*—Following operation, gastric decompression is utilized for 36 to 48 hours, and normal diet is resumed as rapidly as tolerated. Early ambulation should be carried out. In my opinion before the T tube is removed a cholangiogram with diodrast (not iodized oil) should be performed in every patient having choledochostomy for stone. If a stone or stones are found, it will be necessary to eliminate them by some method or other. Best and associates<sup>10</sup> have for years utilized a method of flushing out the lumen of the common duct with a solvent to dissolve the stone. The T tube is left in place 14 to 16 days in the average case. It is clamped off a few hours per day for 4 or 5 days before its removal, to be sure no obstruction exists.

In all jaundiced patients, some type of synthetic vitamin K-like product should be given on the day of operation, and every succeeding day for 5 or 6



Fig. 2. This postoperative cholangiogram reveals a shadow interpreted as a stone in the terminal end of the common duct, but is the only one of four that showed it. At operation, a nodule was palpated in the area of the terminal end of the common duct, but it was interpreted as a pancreatic nodule because it was immobile to manipulation of the common duct scoop. An operative cholangiogram was not taken because the patient was too obese. Since later cholangiograms revealed no abnormal shadow, the T-tube was removed. When seen last (three months after removal of the tube) the patient was entirely well. Either the shadow was an artifact, it was a stone passed spontaneously, or it was disintegrated by a four weeks' course of bile salts. (After Cole in J.A.M.A.)



days. The dosage depends to some extent on whether or not the prothrombin time is abnormal. Because of the high frequency of error in performing this test, it is probably wisest to give a vitamin K drug even though a normal prothrombin time is reported.

**Results.**—Obviously, if all stones in the common duct are found and removed, the results should be excellent in 90 to 95 per cent of cases. Poor results would be ascribed to complicating disease in other organs, of which pancreatitis would be of importance etiologically. Seldom indeed does a stricture form in the common duct as the result of ulceration produced by the stone or as the result of the choledochostomy itself.

Probably obstructive lesions (anomalous or fibrotic) at the ampulla of Vater are more commonly the cause of poor results following choledochostomy than either of the two mechanisms mentioned above.

The mortality rate for choledochostomy (performed in addition to cholecystectomy) should be 2 to 3 per cent during modern times, but naturally

higher if the data extend back 10 to 20 years. In a series of 100 cases extending back several years, Gaster<sup>11</sup> noted a mortality rate of 7 per cent in jaundiced patients, compared to 2.1 per cent in non-jaundiced patients. In his series, the mortality rate in patients past the age of 50 was about 10 times that of patients under 50. Glenn's<sup>4</sup> reports on choledochostomy were similar in that his mortality rate for patients under 50 was 1.5 per cent, as compared with 9.6 per cent in those over 50 years of age. For the entire group the rate he found was 5.7 per cent. In our own small series of 51 cases observed during the past 5 years, the mortality rate was 2 per cent.

#### FIBROTIC STENOSIS OF PAPILLA OF VATER, ANOMALIES, AND BILIARY DYSKINESIA

There has been considerable difference of opinion not only as to the types of obstruction at the papilla of Vater, but even as to their existence. But so much evidence of obstructive lesions has accumulated recently that their existence is no longer debatable. The only doubt rests in the question as to whether or not a true spasm or dyskinesia exists. Clinical research reported by numerous workers 5 to 10 years ago showing production of spasm with morphine and other drugs seems to prove that the sphincter muscle may be forced into more than momentary contraction. The big question is whether this spasm can be prolonged or be maintained for hours, and be repeated day after day. It is my opinion that a true spasm may develop, but that a fibrosis resulting from some type of inflammation is a more important factor; if the inflammation persisted, then fibrosis would naturally develop. We have observed<sup>12</sup> three such cases at Illinois Research Hospital; in each of these a 6 mm probe inserted through an opening in the common duct could not be passed through the sphincter of Oddi. Upon opening the duodenum over the papilla, we found that only the smallest probe—2 mm in diameter—could be passed upward, and even then preliminary dilatation was necessary. In one of these patients, a piece of the sphincter was excised for a biopsy. It showed distinctly more inflammation and fibrosis than the sphincters of patients dying from causes unrelated to the biliary tract.

Recently Cattell and Colcock<sup>13</sup> have reported 49 patients in whom it was impossible to pass a 3 mm. probe through the sphincter of Oddi. Of this group, 27 gave a history of intermittent or persistent jaundice, and 32 had had cholecystectomy at a previous operation without relief of symptoms. Forceful dilatation of the sphincter was done in 35, and transduodenal sphincterotomy in 10. There was moderate to marked dilatation of the duct in only 17, confirming, my own experience, for I, likewise, have observed common duct obstruction without dilatation.

#### REFERENCES

1. Gross, Robert E.: *The Surgery of Infancy and Childhood*, Philadelphia, W. B. Saunders Co., 1953.
2. Gerrish, E. W., and Cole, J. W.: *Surgical Jaundice in*

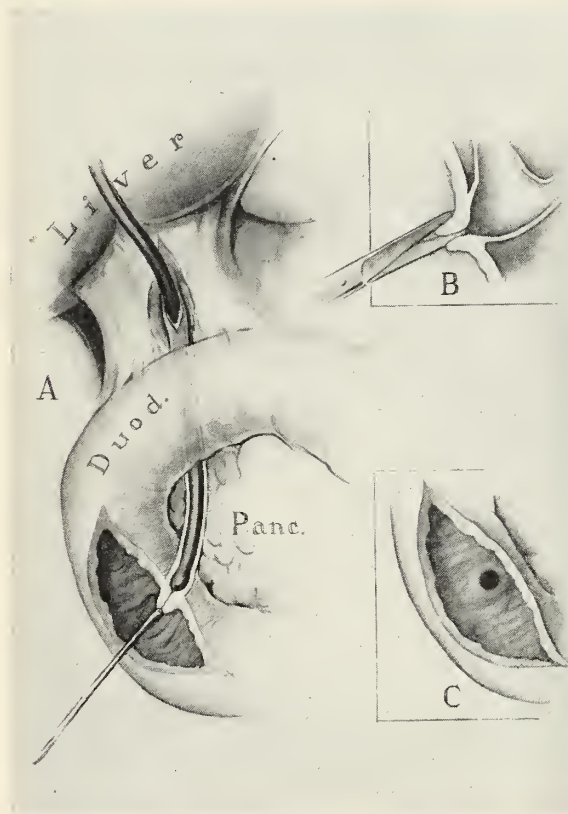


Fig. 3. A cholecystectomy had been performed 13 years previously, with relief of pain. The pain returned (in the right upper abdominal quadrant) in a severe form less than one year prior to examination. At operation the common duct contained no stones, but a large lead probe could not be passed through the sphincter of Oddi. The duodenum was opened, and the lumen of the duodenal papilla and sphincter of Oddi was found so small that it hardly admitted a probe having a diameter of 2 mm. The sphincter was cut as illustrated in insert B. Insert C shows a wide opening in the ampulla after cutting the sphincter. Pain was relieved completely. (After Cole in J.A.M.A.)



Infants and Children, Arch. Surg., 63:529-35, (October) 1951.

3. Cattell, R. B.: The Use of a Long T-Tube in Surgery of the Biliary Tract, S. Clin. North America, 28:659-68, (June) 1948.

4. Glenn, Frank: Common Duct Exploration for Stones, Surg. Gynec. and Obst., 95:431-8, (Oct.) 1952.

5. Walters, W. Gray, H. K., and Priestly, J. T.: Annual Report on Surgery of the Biliary System and Pancreas for 1946, Proc. Staff Meet., Mayo Clin., 23:40-5, (Jan. 21) 1948.

6. McLaughlin, C. W., Jr., and Kleager, C. L.: Indications for Cholecystostomy, Nebraska M. J., 36:17-19, (Jan.) 1951.

7. Grove, L.: Surgery of the Biliary Tract: A Personal Experience With 850 Consecutive Cases in Private Practice, J. Florida M. A., 38:95-103, (Aug.) 1951.

8. Harridge, W., and Helsby, R.: A Clinical Analysis of Gallbladder Disease, (to be published).

9. McKittrick, L. S., and Wilson, N. J.: Indications for and Results Following Exploration of the Common Bile Duct for Stones, California Med., 71:132-7, (Aug.) 1949.

10. Best, R. R., Rasmusson, J. A., and Wilson, Carlyle: The Management of Remaining Common Duct Stones by Various Solvents and the Biliary Flush Regimen. (Presented at the Annual Meeting of the American Medical Association, June 2, 1953.) (The same investigation, perhaps at an earlier stage, was reported by these authors as: An Evaluation of Solutions for Fragmentation and Dissolution of Gallstones and Their Effect on Liver and Ductile Tissue, Ann. Surg., 138:570-81, (Oct.) 1953.—Editor)

11. Gaster, J.: Surgery of the Biliary Tract: 5 Year Survey, Arch. Surg., 60:21-30, (Jan.) 1950.

12. Cole, W. H.: Recent Trends in Gallbladder Surgery, J.A.M.A., 150:631-637, (Oct. 18) 1952.

13. Cattell, R. B., and Colcock, B. P.: Fibrosis of the Sphincter of Oddi, Ann. Surg., 137:797-806, (June) 1953.

THE PROBLEM OF CARCINOMA OF THE STOMACH WITH SPECIAL REFERENCE TO ENCOURAGING TRENDS OF SURVIVAL RATES

HOWARD K. GRAY, M.D.\*  
ROCHESTER, MINN.

IN A RECENT ISSUE of a popular magazine, the New York City Cancer Committee of the American Cancer Society, through the medium of an excellently prepared public notice, called to attention two extremely important facts that have received inadequate notice. The statement was made that "Peace of mind comes from the knowledge that with proper care cancer in its early stages can be cured" and that "Peace of mind comes with the assurance that proper care and treatment are being administered." The presentation to laymen of such obvious truths is highly to be commended, for a defeatist complex in regard to cancer has been engendered in the minds of many persons owing to the fact that emphasis has been placed on the discouraging rather than the encouraging aspects of this dreaded disease.

Because more persons die of cancer of the stomach than of cancer of any other organ, the average person is thoroughly acquainted with the course of this form of cancer either through personal experience of friends and family or as a result of information obtained through legitimate or quasi-scientific channels. The fact that (so far as can be determined by careful clinical examinations) cancer of the stomach is apparently amenable to surgical treatment in approximately 80 per cent of cases at the time when the patients are first seen by the surgeon is overlooked when the corollary is emphasized that in approximately 20 per cent the lesion is hopelessly inoperable

when the patients first consult a surgeon. In a similar manner, average persons (including many physicians) neglect to recognize the fact that when the lesion is *apparently* resectable from a clinical standpoint, in 55 per cent of cases the surgeon is able to resect the involved portion of the stomach and thus offer patients the one chance of cure. Doubtless this neglect is attributable to the discouraging fact that in nearly an equal percentage of cases the lesion is found to be hopelessly inoperable when exploration is performed.

TABLE 1  
FATE OF PATIENTS WITH GASTRIC CANCER:  
FORMERLY AND TODAY

	Formerly (1907-16), per cent	Today (1940-49), per cent
Total patients examined.....	100	100
Subjected to laparotomy.....	60	80
Lesion found resectable.....	22	44
Survived resection.....	19	40
Survived 3 years.....	7	18
Survived 5 years.....	5	14

Perhaps in my desire to place the emphasis on the encouraging rather than the discouraging aspects of cancer of the stomach I am drawing a fine academic line, yet from a psychologic standpoint, it seems to me that the benefits to be derived are obvious. It is undoubtedly true, also, that more patients will seek medical attention and submit to operation when they can be made to realize that the results in many instances fully justify the risk, distress and consumption of time and money.

The figures just quoted were taken from a study of mortality and survival in cancer of the stomach made by Berkson and co-workers and published as a statistical summary of the experience of the Mayo Clinic.<sup>1</sup> Ninety-eight and nine-tenths per cent of patients surgically treated in the years 1907 to 1916 inclusive were traced, and the fate of 99 per cent or more of the patients in other groups surgically treated in specified subsequent periods was determined accurately. A considerable portion of the analysis concerned survival rates, actuarially estimated. From these it was possible to show a most encouraging trend, as is indicated in Table 1. It should be noted that the figures refer to percentage of all patients examined in whom a diagnosis of cancer of the stomach was made. The figures may be expressed in a different manner, as indicated in Table 2.

An analysis of these figures reveals that in spite of an increase of 33 per cent in the proportion of patients subjected to laparotomy (operability rate), there was an increase of 48 per cent in the proportion of patients whose lesion was found to be resectable (resectability rate ) and a decrease in the hospital mortality rate of 50 per cent. Of all patients examined (operated and nonoperated) there was an improvement from 5 per cent for the former group (1907 to 1916 inclusive) to 14 per cent for the later group (1940 to 1949 inclusive) who

\* Division of Surgery, Mayo Clinic.

survived five years—an improvement of 180 per cent.

These figures, though small in themselves, are most encouraging, for they suggest that larger numbers of patients are becoming aware of the disease at a stage in its development when surgical intervention is of maximal benefit. It is obvious, however, that the five-year survival rate of the overall group is still distressingly low and that much remains to be done if appreciable improvement is to be noted in subsequent reports. It should be said, in passing, that credit for the improvement cannot be given the patient alone for his awareness of the condition and his apparent willingness to submit to clinical examination and surgical therapy. Improvements in operative technique and in preoperative and postoperative care where the application of more recent knowledge relating to fluid and electrolyte balance and the use of chemotherapeutic agents have played such an important role, advances in diagnostic methods, the dissemination of information relating to the disease, and advances in anesthetic methods have been important factors, among many others, that have contributed to this improvement.

TABLE 2

FATE OF PATIENTS WITH GASTRIC CANCER:  
OPERABILITY AND RESECTABILITY FORMERLY AND  
TODAY

	Formerly (1907-16), per cent	Today (1940-49), per cent
Total patients examined.....	100	100
Operability rate*.....	60	80
Resectability rate†.....	37	55
Hospital mortality rate (of those under- going resection).....	16	8
Survived resection (of those under- going resection).....	84	92
Survived 3 years (of those surviving resection).....	39	43
Survived 5 years (of those surviving resection).....	29	35

\* Ratio of patients operated on to total patients with a diagnosis of cancer of the stomach.

† Ratio of patients who underwent resection to total patients operated on.

What else can be done? One of the first responsibilities of the medical profession is to spread the knowledge that with proper care cancer of the stomach can be cured if it is attacked when the process is in its early stages and has remained localized in the stomach. Laymen must understand that there is no typical symptom complex that is characteristic of cancer of the stomach, and the physician likewise must not wait for the development of characteristic symptoms before considering the possibility of the presence of a cancer of the stomach and insisting upon a thorough examination in order to arrive at a correct diagnosis. That the symptoms of cancer of the stomach may be vague and ill-defined is well known. In any case in which the chief symptoms are referable to the stomach and do not respond immediately and permanently to simple therapeutic measures, the

possibility of cancer of the stomach must be entertained.

In approximately 30 per cent of cases of cancer of the stomach, the history contains many ulcer-like features, and in nearly half of these cases definite improvement in the symptoms will be noted if the treatment is much the same as one would give to a patient for an ordinary ulcer of the stomach or duodenum. The realization of the significance of this fact is of extreme importance, for misinterpretation of the effects of therapy may be misleading if such treatment is being administered as a diagnostic test in lieu of thorough examination by means of x-ray.

In many instances, unscrupulous drug establishments that advertise directly to the public recommend their products for "acid indigestion" and for "that gnawing distress which may come on when the stomach is empty and is relieved by taking food." In radio, television or printed advertisements, such distress is attributed to "hyperacidity," but in many instances it is due to cancer of the stomach. Because the sufferer may obtain temporary relief by taking such self-administered nostrums, patients with malignant lesions of the stomach often continue to treat themselves until the temporary benefit has ceased. By that time, the cancer may have progressed to the point where nothing can be accomplished surgically. That advertisements for medical remedies have been barred from the pages of reputable magazines and newspapers for a long time is a tribute to the sense of social responsibility of their publishers. Unfortunately, rare it is in these days when one can pick up a newspaper or magazine, turn on the radio or watch television without having to submit to a bombardment of misleading therapeutic claims which run the gamut from aardvark to zythum.

The fact that a patient may long have had symptoms referable to the stomach is no criterion upon which to exclude the presence of cancer of that organ. Not infrequently, one may encounter a person who is confident that cancer is not present because symptoms have been present and unchanged for many months and who believes that if cancer had been present for this length of time it would be more evident. The possibility that an inflammatory lesion of the stomach may become cancerous is a conception that often escapes consideration. Such a statement does not imply that all cancerous lesions of the stomach start as ordinary ulcers, and it is doubtful that there have been any competent physicians in recent times who have subscribed to such a theory. Recognized specialists are of the opinion that some cancerous lesions of the stomach start as ordinary ulcers, but it is impossible from any standpoint to determine accurately how frequently this occurs. To know whether a benign gastric ulcer may become malignant is important, but to determine whether the ulcer under consideration is malignant as of



now is of far greater importance. However competent they may be, the radiologist, the gastroscopist, the surgeon and the pathologist cannot, on gross examination, determine with 100 per cent accuracy the exact nature of an ulcerating lesion of the stomach. Only by microscopic examination can the competent pathologist make an exact diagnosis, and then, in many instances, only after many sections from the edges of the ulcer have been examined. Every ulcerating lesion of the stomach therefore must be considered to be malignant until it is proved otherwise.

Diffuse gastritis, particularly if there is no acid in the gastric contents, may be present for an indeterminate period before definite evidence of cancer becomes manifest in the stomach. Cancer does not develop in every instance under these circumstances, but it occurs often enough that any patient with no free acid in the gastric contents should be followed at intervals by means of x-rays so that a malignant lesion, if it should develop, may be recognized at its inception.

In conclusion, it may be stated again that the problem of cancer of the stomach shows many encouraging features. The fact that in recent years the proportion of patients operated on for such lesions of the stomach is 33 per cent higher than it was forty years ago, that the resectability rate has improved nearly 50 per cent, that the hospital mortality rate following resection has dropped 50 per cent and that the five-year survival rate has improved 180 per cent is distinctly gratifying. It is obvious that if this progress is to continue, even greater emphasis must be placed on the necessity of early diagnosis and on the eradication of those false notions and conceptions of the disease which muddy the diagnostic waters and obscure the correct diagnosis.

#### REFERENCES

1. Berkson, Joseph, Walters, Waltman, Gray, H. K. and Priestley, J. T.: Mortality and Survival in Cancer of the Stomach; A Statistical Summary of the Experience of the Mayo Clinic. *Proc. Staff Meet., Mayo Clin.*, 27:137-151. (Apr. 9) 1952.

#### PSYCHOSOMATIC SHORT COURSE

Specialists in psychosomatic medicine will present a special three-day institute on emotions and the female reproductive system at the Topeka psychiatric hospitals starting on December 10. It is open to all practicing physicians in the Midwest, but enrollment is limited to 80.

Principal speakers will include Dr. Karl Menninger, of Topeka; Dr. O. Spurgeon English, of Temple University; Dr. Edith Jackson, of Yale; Dr. Norman Reider, of the University of California at Berkley; Dr. Marian Kenworthy, of the New York (Columbia) School of Social Work; and Dr. Robert Wallerstein, chief of psychosomatic medicine at Winter V.A. Hospital.

Detailed information about the institute can be had from Mr. Harold Ingham, University of Kansas Medical Center, Kansas City 3, Kansas.

#### HYPOSPADIAS

WM. C. HUFFMAN, M.D.\*

DAVID A. CULP, M.D.\*

RUBIN H. FLOCKS, M.D.\*

IOWA CITY

HYPOSPADIAS IS THE result of faulty fusion of the urethral folds on the under surface of the penis, malunion of the scrotal halves, or failure of approximation of perineal soft tissues. As a consequence, the urethral opening may be found in the midline of the perineum, between the halves of a bifid scrotum, or at any point along the ventral surface of the penile shaft. The ununited tissues

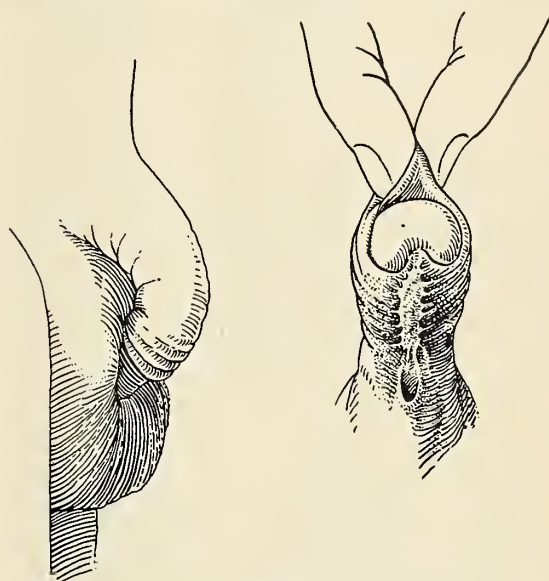


Figure 1.

distal to the urethral meatus form a firm fibrous contracted band which produces a ventral curvature of the penis (Fig. 1). The degree of chordee will depend upon the distance between the urethral opening and the tip of the glans. When a balanic type of hypospadias is present, with the urethra terminating at the base of the glans, the curvature is slight, and the condition may not need treatment. When the urethra terminates further proximally along the shaft, in the scrotum, or in the perineum, the ventral curvature is more pronounced, and the probabilities of normal genital function are decreased in direct proportion. In addition, the proximally placed urethra will not allow the patient to urinate while standing.

The treatment of hypospadias has several aims: the relief of all ventral curvature so that normal genital function can be expected; the provision of a urethra that opens at the tip of the glans penis to allow direction of the urinary stream in the usual manner; external genitalia that are normal in appearance.

Although there is almost unanimous agreement

\* State University of Iowa Hospitals.

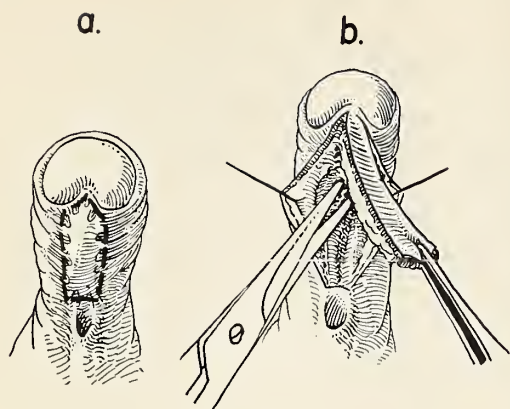


Figure 2.

as to the objectives of hypospadias repair, divergent opinion is found concerning the manner in which they are to be attained and in regard to the time the treatment should be instituted. At the present there is more and more tendency to begin surgical procedures at an early age so that the patient will be normal in appearance and will not be forced to sit to void when he starts to school. Moreover, there is evidence that any procedure done to straighten the penis is less efficient if the corpora cavernosa are allowed to grow in a distorted position for several years.

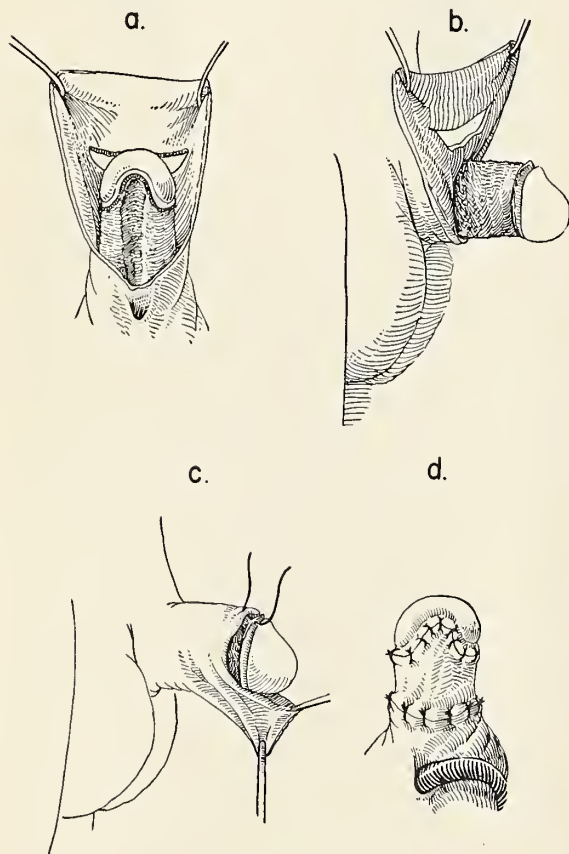


Figure 3.

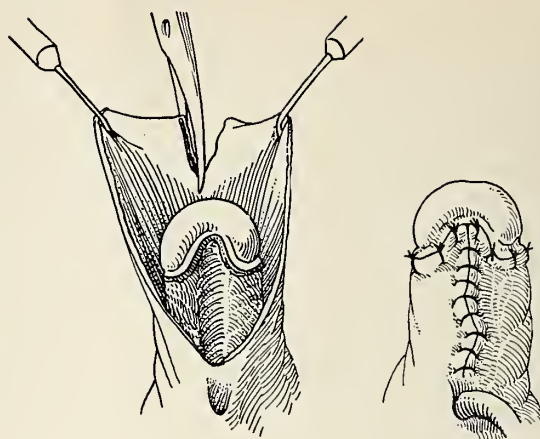


Figure 4.

Straightening of the shaft of the penis is the first procedure advised in nearly all hypospadias repairs and is usually done at three or four years of age. At this operation every bit of contracted fibrous tissue distal to the urethral meatus must be excised, and the excision should be done with as little trauma as possible in order to minimize postoperative scar-tissue contraction. Complete release of the congenital contracture leaves a large raw area remaining on the under surface of the penis which must be provided with immediate skin covering.

Two parallel incisions extending distally from the misplaced urethra will allow the removal of any mucosal tags and surface irregularities (Fig. 2a). The excision of surface defects affords a wide approach to the underlying contracted fibrous band which can be most efficiently removed with fine forceps and small sharp scissors (Fig. 2b). As a general rule one cannot be sure that the excision is complete until he can see glistening tunica albuginea in the groove between the corpora cavernosa all the way from the urethra to the distal extremities of the corpora. As one removes the fibrous contraction, he is likely to become disturbed when he notices the tremendous increase in the size of the wound. If he remembers that the aim of the straightening procedure is to increase the length of the under surface of the penis, the enlarging wound will be encouraging rather than frightening, and the apparent migration of the urethral opening to a more proximal point will be regarded with favor.

Nearly every device for covering the wound on the ventrum of the penis uses preputial tissue in some manner. For this reason circumcision is contraindicated for the hypospadiac patient. In two commonly used operations, preputial skin is drawn around the penis by passing the glans through a buttonhole made in the skin of the dorsum (Fig. 3) or through a dorsal longitudinal slit (Fig. 4). It is



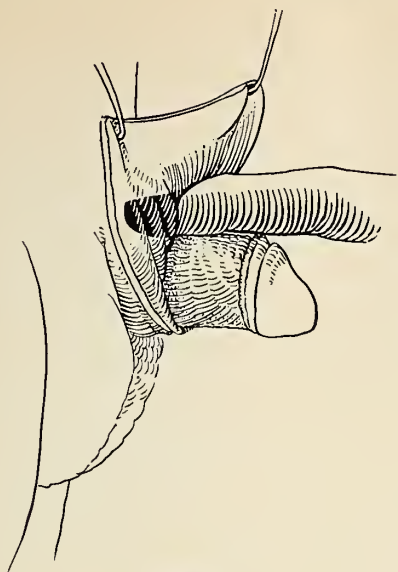


Figure 5.

advisable to undercut the skin back to the base and entirely around the shaft (Fig. 5) to make certain that all abnormal skin attachments to the curved penis are freed and to allow application of flaps to the ventral surface without torsion or tension.

After the shaft has been straightened and the covering skin redraped as needed, varying lengths of time must be allowed to elapse before any attempt is made to construct the missing distal urethra. Any plastic procedures done before operative scar tissue has softened or before the transplanted skin has had a chance to pick up blood supply from its new bed are often doomed to failure. It is probable that at least two months should elapse between the straightening operation and any further surgery.

The myriads of plans proposed for formation of the distal urethra may be divided into three main classes:

1. The use of an inlay free skin graft (Fig. 6a).
2. The use of a buried *tube* of penile skin (Fig. 6b).
3. The use of a buried *strip* of penile skin (Fig. 6c).

Each of these plans has advantages and disadvantages depending upon the past experience of the surgeon and the needs of the individual patient. It is reasonable to assume that one should use the method that gives the best results in his own hands, but it is not amiss for one to be well acquainted with all methods for the benefit of that particular patient for whom one particular operation is unsuitable.

Construction of the distal urethra by means of a free skin graft is certainly the quickest and easiest procedure. In some respects it is the most certain. These grafts "take" well almost without exception. However, it must be admitted that, if used in a young child, there is always the chance that

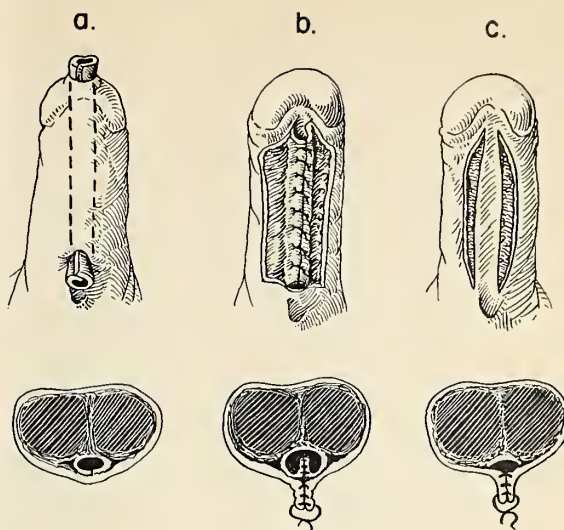


Figure 6.

growth of the graft will fail to keep pace with the growth of the penis; there is also the possibility that a free graft will undergo enough late post-operative contraction to produce stricture formation.

In constructing a urethra by means of an inlay of free skin, one prepares the tunnel for reception of the graft by blunt or sharp dissection and ex-

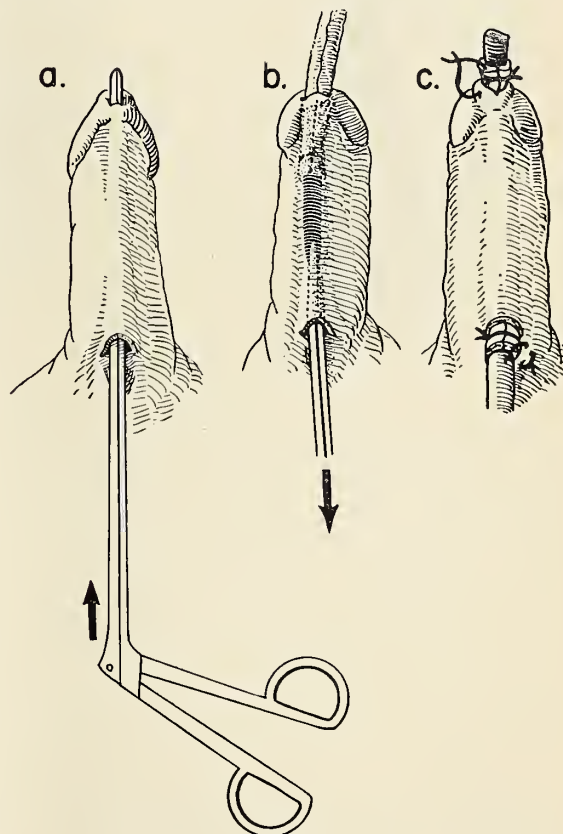


Figure 7.

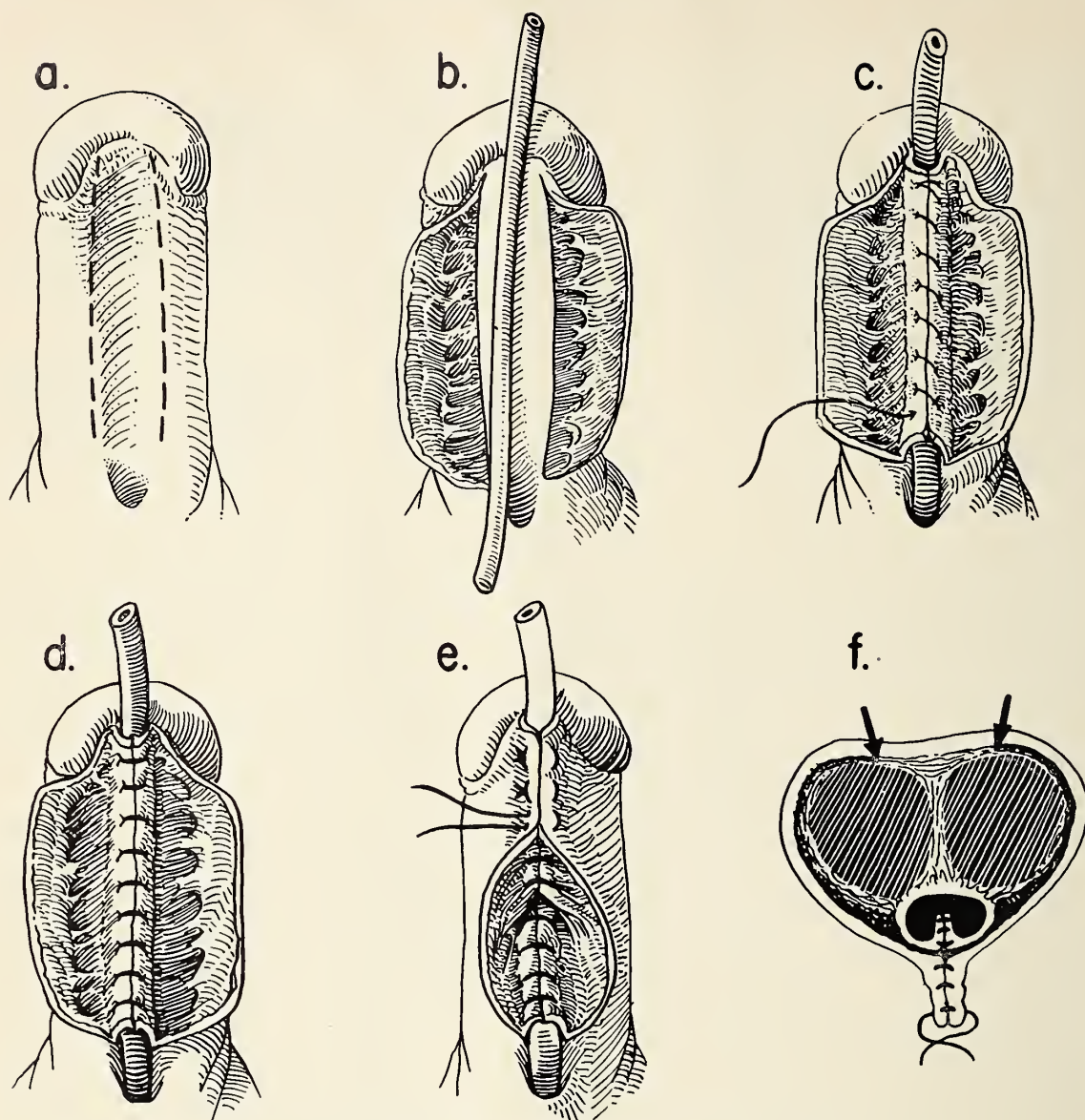


Figure 8. (Extent to which penile skin is undercut is indicated by arrows in "f.")

tends it from the urethral meatus to the tip of the glans (Fig. 7a). The three-quarter-thickness graft is taken from the inner surface of the arm, a region relatively free of hair, and is drawn into the tunnel around a soft rubber catheter (Fig. 7b). It is not necessary to gain edge-to-edge approximation of the graft nor is it obligatory to suture the graft around the catheter. The sheet of skin is wrapped around the catheter without regard to overlapping and is held in place by a tightly tied ligature at each end. After the skin-wrapped catheter is drawn into the tunnel, it is fixed in proper position by one or two sutures through penile skin (Fig. 7c). A firm, bulky spica dressing is applied and left in place for about ten days to two weeks, after which time the catheter can usually be easily withdrawn.

Urethral construction by means of a buried tube of penile skin seems, theoretically at least, to be the soundest method. Its only shortcoming lies in the possibility of complete or partial disruption of the tube or the suture line over it. Some measures used to avoid this disaster will be presented later. The use of a skin tube often allows one to establish continuity with the posterior urethra at the same operation. We usually prefer to construct the urethra and allow it to heal well before subjecting it to the pressure of the urinary stream.

Isolation of penile skin for preparation of the buried tube is started by making two parallel incisions anterior to the meatus (Fig. 8a). The tube is constructed over a catheter (Figs. 8b, c). In a well planned operation, the isolated skin strip should be in width about one and one-half times



the circumference of the catheter about which the tube will be made. The excess width of the skin strip plus its careful undermining well back toward the midline will allow it to be wrapped around the catheter and sutured in layers (Figs. 8c, d) without the least tension. The covering skin is then undercut well up onto the dorsum of the penis so that it can be easily drawn over the newly constructed tube (Figs. 8e, f). The catheter within the new urethra is withdrawn at the end of the procedure. We do not favor leaving the catheter in place, for it acts as a foreign body and exerts unnecessary pressure during healing. When penile skin is not immediately available for covering the urethral tube, a scrotal skin flap may be used, or the penis may be temporarily buried in the scrotum.

Provision of the missing urethra by means of a strip of buried penile skin has been advocated by many surgeons and has recently become a quite widely used method. It is based upon the supposition that the raw surfaces of the flaps drawn over the buried strip will become covered by epidermis growing out from the edges of the strip or will be obviated by a tendency for the strip of skin to "tube itself" after being buried. Here again the possibility of perforation of the suture line holding the covering flaps in approximation cannot be ignored. The procedure is about the same as is used in urethral construction by means of a buried tube of penile skin, except that the skin strip is buried without being tubed. In this method the possibility of constructing the urethra and connecting it to the



Figure 10.

posterior urethra at the same stage again presents itself.

Unless the anterior urethra has been constructed and connected to the posterior urethra in one operation, the final stage of hypospadias repair consists of establishing continuity between the anterior and posterior urethras and is, in effect, the closure of a urethral fistula. This is probably most simply accomplished by making a circumscribing incision well beyond the margins of the fistula (Fig. 9a) and turning in skin flaps by means of a purse string suture (Fig. 9b). It is always advisable to approximate skin edges in layers in both the urethral flaps (Fig. 9c) and in the penile skin drawn over the repair (Fig. 9d). The maneuvers of covering the anastomosis with a rotated scrotal flap or of gaining temporary covering by burying the operative area in the scrotum are available if adequate cover cannot be gained by direct approximation of skin of the penis or scrotum.

The problem of diverting urine from the finally completed urethra arises at this point. We have yet to find a sure method of keeping all urine out of the urethra whether we use a suprapubic cystostomy or perineal urethrostomy. At the present we allow normal voiding and buttress the line of repair with a "tie over" bolus dressing (Fig. 10) for about ten days. It seems that the results are about as good as they are when the urine is sidetracked.

It might be worthwhile to emphasize some operative details that appear to help assure successful results in hypospadias repair. Although the tissues of the region in question have an abundant blood supply, they are of a somewhat fragile character and do not tolerate excessive trauma very well. The use of fine forceps or skin hooks and employment of fine material for sutures and ligatures will be amply repaid. Wide enough undermining of any skin that is to be tubed or that is to be moved, such as sliding or rotating flaps to allow approximation without the least tension, is a long step toward primary healing. A second step is gained as a result of adequate tissue relaxation—the closure of all repair lines by multiple layers of sutures.

#### SUMMARY

The treatment of hypospadias has been outlined. The straightening procedure is advised at an early

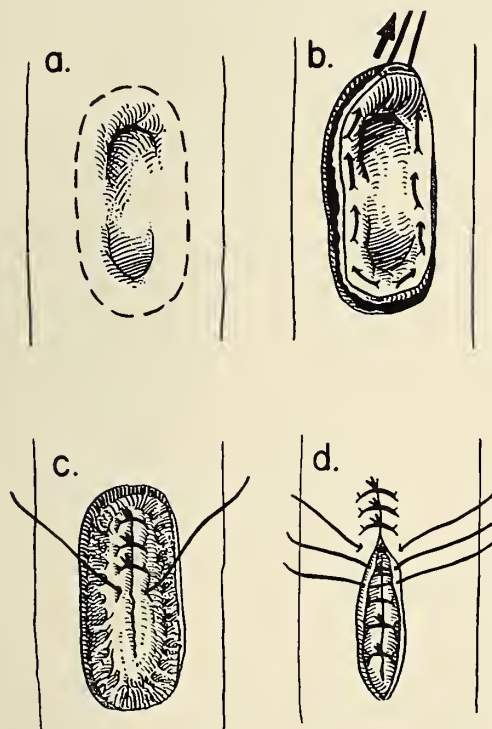


Figure 9.

age. Three general methods for urethral construction have been described. A few operative details have been mentioned that, when carefully observed, appear to offer chances for better final results.

## TUBERCULOSIS IN THE AGING POPULATION IN IOWA\*

WALTER L. BIERRING, M.D.  
DES MOINES

IT HAS BEEN APTLY stated that "old age is the last stand of the tubercle bacillus."

The significance of tuberculosis among older persons, or persons beyond 50 years of age, has been increasingly recognized during the past 25 years. This has been further emphasized in the writings of J. Arthur Myers, R. J. Anderson, A. R. Rich, Robert I. Monroe, and others, as well as in the reports of the U. S. Public Health Service, the Metropolitan Life Insurance Company, mortality statistics in Iowa, and the age incidence as observed in the case-finding programs operating in this state.

Frequent references are to be noted among earlier writings on this subject. Osler in his textbook *Practice of Medicine*, 1892 and later editions, wrote as follows: "It is remarkable how common tuberculosis is in the aged, particularly in institutions such as Blockley Hospital, Philadelphia, in patients having been brought over from the Alms House. One patient died at 82 years of extensive tuberculous peritonitis. It was noted that tuberculosis in the aged usually had a latent or ran a slow course. The physical signs were often marked by emphysema and co-existing bronchitis."

Oppenheimer and Coz in *Studies at the Autopsy Table*, published in 1911, reported finding in 260 bodies beyond 60 years of age, signs of progressive tuberculous lesions in 83, and healed lesions in 110.

A. Calmette stated in 1923, in his monograph on "Tubercle Bacillus Infection & Tuberculosis in Man & Animals," "In the aged, contrary to what was believed until recently, chronic tuberculosis is very frequent. It often takes that particular form which clinicians call essential asthma or emphysema. One should always suspect this illness, all the more since it usually goes unrecognized by reason of its insidious and mild symptoms. It tends to be without fever and to progress extremely slowly."

Opie, the pathologist, in 1924, reporting his autopsy studies on tuberculosis, said he had "found incidence of latent apical lesions increased with age." "Between 18 and 50 years," he said, "the incidence was 8.7 per cent, but in later life the same increased to 28.6 per cent," and "therefore it is

obvious that pulmonary tuberculosis is a common disease beyond 50 years of age."

Recent autopsy studies indicate that older persons now constitute a major focus of tuberculous infection, and that a relatively large number of persons supposedly succumbing to diseases other than tuberculosis were found to have tuberculosis in active form.

The introduction of the x-ray has proved a most valuable diagnostic aid in the discovery of chronic tuberculosis, and many cases remained unrecognized until x-ray studies were made. While the tuberculin test is still of value, it has not proved as reliable in the diagnosis of chronic tuberculosis as the x-ray. Positive sputum information is valuable in determining activity.

For many years it was customary to think of tuberculosis as a disease primarily of young adults, the majority dying between 15 and 45 years. These were people in the prime of life, such as wage earners, parents of small children, and young people just starting their life work.

According to federal vital statistics in 1900, 64 per cent of reported tuberculosis deaths were in the 15 to 44 year group, but in 1947 the shift in mortality rates indicated that 52 per cent of reported deaths from tuberculosis were over 45 years of age, while the number of deaths in the more vulnerable ages of 15 and 44 years were lowered to 45 per cent. The shift of tuberculosis to the older age group has been definitely recognized in this state.

In Table 1, which shows tuberculosis deaths by age group in 1920, it will be noted that in 1,153 deaths of all ages, 763 or 66.2 per cent, were under 45 years, and 390 (33.8 per cent) between 45 and 85 years or over.

In contrast, Table 2 shows that in 1949, 1950 and 1951, of a total of 597 deaths, 215 occurred (36 per cent) before 45 years of age, and 382 (64

TABLE 1  
TUBERCULOSIS DEATHS BY AGE GROUP  
1920

Age	Total		Male		Female	
	Number	Rate	Number	Rate	Number	Rate
All Ages	1153	48.0	544	44.2	609	51.8
0-4	42	16.7	23	18.0	19	15.4
5-14	35	7.5	11	4.6	24	10.4
15-24	205	48.1	73	34.4	132	61.5
25-34	287	74.4	130	65.9	157	83.2
35-44	194	62.8	95	60.1	99	65.8
45-54	161	65.2	71	54.0	90	77.8
55-64	116	67.6	76	83.2	40	49.9
65-74	66	68.0	39	76.4	27	58.7
75-84	36	89.0	20	98.6	16	79.3
85 and over	11*	154.2	6**	175.7	5***	134.5

\* Includes 5 ages unknown

\*\* Includes 3 ages unknown

\*\*\* Includes 2 ages unknown

per cent) died between 45 and 85 years, 217 of whom were between 55 and 75 years of age.

In Table 3, showing the 1950 deaths (209) by age groups, comparative deaths are projected as

\* Presented at the annual meeting of the Iowa Tuberculosis and Health Association, May 7, 1953.



if the 1920 rate had continued, indicating 1,258 deaths in 1950, instead of 209.

In 1920 tuberculosis claimed the lives of 113 persons 65 years of age and over, or approximately

TABLE 2  
TUBERCULOSIS DEATHS BY AGE GROUP  
1949-1950-1951

Age	Total		Male		Female	
	Number	Rate	Number	Rate	Number	Rate
All ages	597	7.6	381	9.7	216	5.5
0-4	13	1.5	6	1.4	7	1.7
5-14	6	0.5	2	0.3	4	0.6
15-24	38	3.4	13	2.3	25	4.4
25-34	71	6.3	33	5.9	38	6.7
35-44	87	8.6	54	10.7	33	6.5
45-54	93	10.4	64	14.3	29	6.4
55-64	111	14.3	91	23.3	20	5.2
65-74	106	20.0	79	30.7	27	9.9
75-84	62	25.5	33	28.8	29	22.6
85 and over	10	21.3	6	29.8	4	15.0

ten per cent of the tuberculosis deaths for that year. In 1950 tuberculosis claimed the lives of 65 persons, 65 years old and over. This is roughly one-third of the total tuberculosis deaths for that year.

Although the median age of Iowa's total population has increased 4.6 years—from 26.4 years in 1920, to 31.0 years in 1950—the median age of those dying from tuberculosis has changed 18.5 years, from 35.3 years in 1920 to 53.8 years in 1950. This would seem to indicate that a larger number of persons dying of tuberculosis are in an older age group than was formerly the situation. The greatest change has been in the male population, where the median age has increased 3.8 years, while the median age from those dying from tuberculosis has increased 19.2 years. During the same

period, the median age of females has increased 5.5 years, while the median age of those dying from tuberculosis has increased 12.3 years. These collected facts indicate that the tuberculosis problem is concentrating to an increasing degree at the older ages, and that this trend will be accentuated as the proportion of oldsters in our population continues to rise.

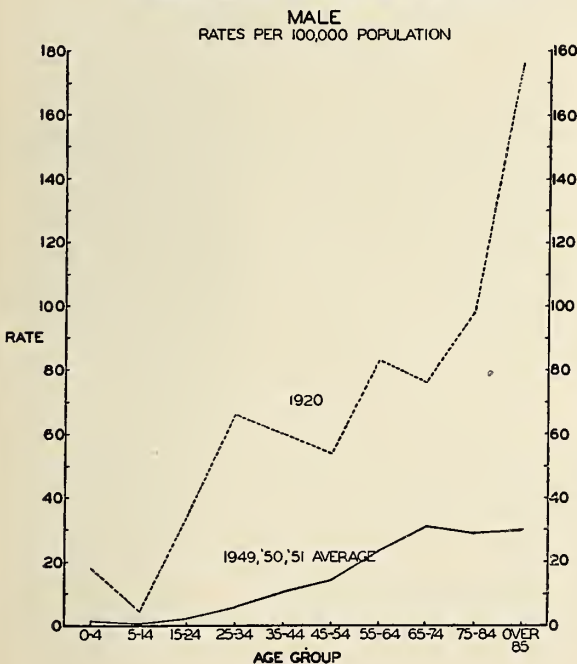
TABLE 3  
COMPARATIVE DATA

Age	1950 Deaths by Age Groups	Projected Deaths 1950 If 1920 Rate Had Continued
All Ages	209	1258
0-4	3	44
5-14	3	30
15-24	15	170
25-34	20	262
35-44	26	199
45-54	39	184
55-64	38	165
65-74	38	113
75-84	24	68
85 and over	3	23

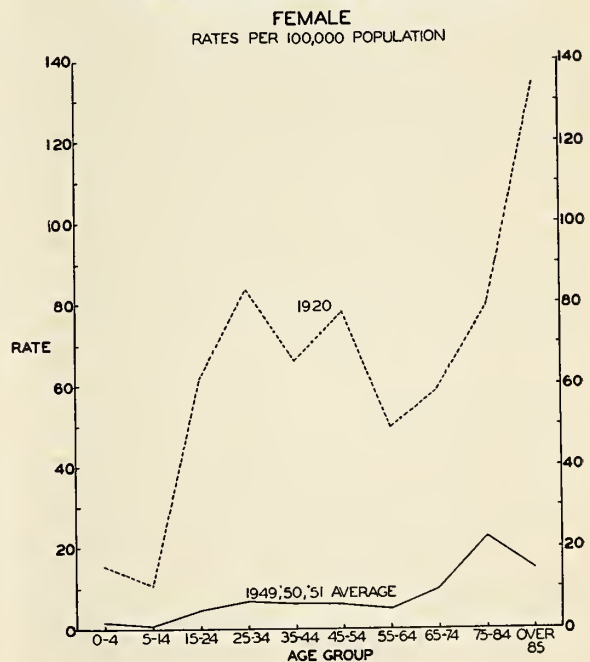
It is logical to conclude, and important to note, that the peak rates now prevailing at older ages reflect primarily a reactivation of tuberculous lesions acquired in earlier life. These older people are the survivors from a period when the disease was more widespread. A generation or so ago, relatively few people were free from tuberculosis, and according to studies of that time virtually everyone who reached adult life reacted positively to the tuberculin test, thus showing evidence of a previous infection. This is no longer true.

Studies reported in 1948 by the Metropolitan Life Insurance Company included a survey of

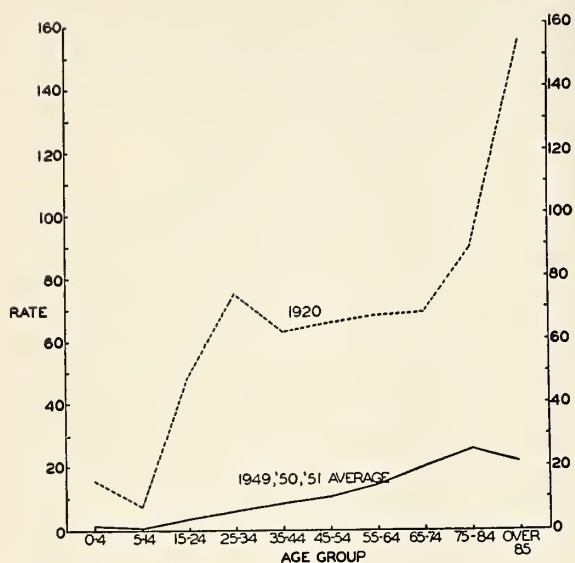
TUBERCULOSIS DEATHS BY AGE GROUP



TUBERCULOSIS DEATHS BY AGE GROUP



TUBERCULOSIS DEATHS BY AGE GROUP  
RATES PER 100,000 POPULATION



certain rural areas in the Middlewest which showed all children to be non-reactors. Similar studies made of groups of grade-school children in Massachusetts showed a reduction of one-half in the percentage of reactors in fifteen years. Comparison of the percentages of positive reactors among selectees of World War I and II indicates a reduction from 29.8 per cent to 19.1 per cent in 1,000 selectees. In case-finding programs including whole counties in Iowa, the incidence of tuberculin reactors among girls and boys is rarely above 8 per cent, and more often 3 to 4 per cent.

The shift of tuberculosis toward the older ages has given greater significance to the case-finding programs. These patients have become a definite community or public-health hazard, and while not of great danger to themselves, they are a definite menace to associates and environmental contacts. Because of the mildness of symptoms, the condition is often not recognized, and because there is still a popular opinion that age brings with it a mythical immunity, Grandfather is permitted to rock unmolested on the front porch, disseminating tubercle bacilli throughout the neighborhood. One can cite numerous examples of the insidious manner in which the elderly patient spreads the infection.

In the county-wide x-ray survey made in Webster County in September, 1952, under the new plan wherein the age groups from 15 years and above are used, a statistical breakdown shows that a good percentage, 65 per cent of the population, took advantage of the service. Nevertheless in the age group of 50 years and above only 53.6 per cent were included.

Tuberculosis-control workers have recognized the difficulty in having the older person take part

in a mass x-ray survey program. Among many older people there is a natural fear of an x-ray examination, and others are unable to attend because of illness or other incapacity. It seems necessary to continue harder than ever to convince our people that the major source of tuberculosis in the young is through contact with an older person who has chronic tuberculosis that has not been recognized.

All who are concerned with the problem of tuberculosis control must recognize their responsibility to urge all men and women, young and old, to have periodic x-ray examinations, either in mass surveys or as a part of a periodic physical examination.

The final control of this disease at the present time is dependent to a large extent on the prompt recognition, isolation and treatment of active tuberculosis in the aging population.

The author desires to acknowledge appreciation to the Division of Vital Statistics, State Department of Health, for the carefully prepared vital record charts.

### JOINT COMMITTEE ON CHEST X-RAY

In establishing a Joint Committee on Diseases of the Chest, the purpose of the American College of Chest Physicians and the American College of Radiology is to exchange ideas and to propose guiding principles on the problems involved in routine chest x-rays in hospitals (general, mental, etc.) and mass chest x-ray programs. The committee agrees: that each physician should be encouraged to have chest x-rays taken of all of his patients; that every patient admitted to a hospital, private or public, should have a routine chest x-ray; and that the follow-up for all suspected lesions seen in chest x-ray surveys should be organized very carefully to assure that the patient comes under medical supervision.

#### LIMITS OF SURVEY

Routine chest x-ray examinations should do no more than to screen persons with abnormal chests from those with normal ones. They are not to be regarded as clinical diagnostic examinations.

The size of film used is not of primary importance, the Committee thinks. When microfilm has been used in the initial examination, a 14x17 inch film is a necessary second step. Hospital staffs and local medical societies can determine by what means those larger films are to be provided.

#### READING AND REPORTING

The Committee discourages the reporting of suspicious cases as tuberculosis, for to do so would be to render a clinical diagnosis. Rather, the cases requiring immediate follow-up should be designated as "urgent." Even the larger film is just one of several examinations necessary in order to establish a clinical diagnosis.

The failures in detecting tuberculosis can be

(Continued on page 531)



## OCULAR MANIFESTATIONS OF CRANIAL TRAUMA

GEORGE S. ATKINSON, M.D.  
OSKALOOSA

THE EYE MANIFESTATIONS of cranial trauma are appearing in increasing numbers because of automobile, farm and industrial accidents. The association of ocular signs is important from the viewpoint of diagnosis, prognosis and treatment. Such signs, which are of equal interest to neurologists and ophthalmologists, cannot be evaluated unless considered with other signs of head injury.

This paper will be chiefly concerned with the symptoms of head trauma of intracranial nature regardless of extent or location. Fundus changes will be considered only where they have a direct bearing on the diagnosis of the intracranial involvement.

As ophthalmologists, we should all know the whole patient. First, we should obtain a careful history from the patient, family or consultant. Next, we should carefully study the patient's general condition, which includes all the signs and symptoms of a cerebral injury, besides those of our particular field.

Our examination should be complete. It should include examination of the bony orbit, peri-orbital region, lids, ocular movements, pupils, ocular cranial nerves, and fundi.

When possible, we should elicit all subjective effects which are:

1. Defective vision—visual palsy.
2. Double vision—ocular palsy.
3. Field changes.
4. Disorientation—association pathways.
5. Disturbance of fixation—fibers from cortex to internal capsule.
6. Metamorphopsia—cerebellar injury.
7. Photophobia—cerebral irritation.
8. Colored vision—cortical lesions.
9. Hallucinations—cortical lesions.

With this preliminary survey we are now better able to evaluate the following ocular signs:

*Eyelids and Conjunctiva.* Ecchymosis and hemorrhages develop in the eyelid and conjunctivas as a result of direct trauma which may result in a "black eye." Similar ecchymosis may occur in fracture of the anterior fossa and orbit. The "black eye" should be carefully differentiated from the latter injuries. Occasionally fractures far distant from the orbit produce eyelid hemorrhages; however, such an occurrence is the exception.

*Emphysema* of the orbit would suggest a communication with any of the neighboring sinuses. The palpebral fissure will be narrowed, whereas in an exophthalmos from other causes the palpebral fissure is widened, since the lids are pressed apart by the globe.

*Ptosis* may be an important sign of head trauma. Drooping of the lid, which is either unilateral or bilateral, may originate as a result of a lesion situ-

ated in the cortex, supra-nuclear pathways, in the nucleus or nuclei or in the infra-nuclear course of one or both of oculomotor nerves. It also may occur without any evidences of oculomotor palsy, as deviation of the eye and changes in the pupil.

*Extra-ocular movements.* Hemispheric lesions account for conjugate deviations of cortica-bulbar fibers which proceed from the frontal lobes. The deviation is toward the side of the lesion. The condition is opposite in irritative lesions. In bilateral injury to the hemispheres, it may be impossible for the patient to move his eyes voluntarily in any direction.

Lesions in the lateral part of pons are postulated as involving the supra-nuclear intermediary centers situated near the 6th nerve nucleus on each side. Such a lesion blocks impulses reaching the medial longitudinal fasciculus both by ascending and descending fibers. There is a conjugate deviation of the eyes away from the side of the lesion when it is destructive (Foville's syndrome). The opposite is true for irritative lesions, the reason for this difference from hemispheric lesions being that cortica-bulbar fibers cross the midline to reach the opposite side of the pons.

*Paralysis of convergence* is thought to result from lesions in the nucleus of Perlia. It is characterized by inability to converge, but there is no evidence of weakness of the internal rectus muscles during lateral movements of eyes. Although it may be caused by various diseases, it occurs most often as a result of head injuries.

*Divergence paralysis* has been reported in head trauma. The center is thought to be in the midline in the region of the 6th nerve nucleus. There will be no weakness of external or lateral movements of the eye.

*Abnormalities of vertical gaze* are less well understood. The center is thought to be in the upper end of the mid brain in the region of the superior colliculus. There are probably intermediary centers near the pineal gland in the mid brain. Parinaud's syndrome is paralysis of conjugate movement in vertical plane as a result of a supra-nuclear lesion. Pupillary abnormalities are common with this syndrome.

*Cerebral hemorrhages* occurring at the time of head injury may be checked spontaneously or they may form hematomas. Hemorrhages are classified as to their general location and localized by the special symptoms they produce.

The most common forms of intracerebral bleeding are multiple petechial hemorrhages. The clinical picture is that of concussion, and the symptoms are not localizing. Large intracerebral hematomas are rare complications of head injuries.

*Subdural hematoma* is a very common condition caused by trauma to the head. It is notable that it is common in infancy, but from the age of 2 to 20 is uncommon. The many and varied ocular signs are conjugate deviations, ptosis, palsies, pupillary changes, papilledema, retinal hemorrhages, visual

field loss, loss of corneal reflex, and nystagmus. Probably the three most common diagnostic signs are papilledema, retinal hemorrhages, and pupillary changes.

Some observers state that papilledema is a common occurrence in adults, and nerve fiber layer hemorrhages are common with the papilledema.

Homolateral dilatation of pupil has been observed. Several investigators have explained this phenomenon on the basis of herniation of the hippocampus through the tentorium with pressure on the third nerve. In occasional cases, the contralateral pupil is dilated and fixed.

*Extra-dural hemorrhage* is almost always due to traumatic rupture of a branch of the middle meningeal artery and occurs in about 3 per cent of all cases of acute head injury. The ocular signs are very similar to those described as occurring in cases of subdural hematoma. The homolateral pupil may be dilated. The eye on the homolateral side may be congested because of pressure on the cavernous sinus. There may be paralysis of the extra-ocular muscles. If there is associated subarachnoid hemorrhage present, there may be retinal hemorrhages.

*Subarachnoid hemorrhage* may be associated with head trauma. Loss of vision may occur, and when it does, the onset is sudden. Photophobia is usually present with the loss of vision. The mechanisms underlying these symptoms are not thoroughly understood. Occasionally intra-ocular hemorrhages have been observed. They may be small and near the disc. Sub-hyaloid hemorrhages may also occur. Papilledema usually occurs late in the development of the hemorrhage, and it is of a relatively low degree. Exophthalmus is occasionally associated with subarachnoid hemorrhage, and here again the mechanism is not understood. Walsh states that ocular muscle palsies occur more often than any other ocular sign in this condition.

*Subdural hematoma of the optic nerve sheath* usually arises as a result of basal fractures and birth injuries. It may cause sudden loss of vision and optic atrophy.

*Ophthalmoplegias* often result from injuries to the cranium. The orbicularis may be paralyzed by involvement of the 7th nerve in a temporal bone fracture. Paralysis of the external rectus can be brought about by injury to the abducens in fractures of the tip of the temporal base, since it lies adjacent under the temporosphenoidal ligament, or by strangulation by transverse branches of basilar artery. Injury to the entire third nerve as a result of cranial injury is rare. When complete paralysis does occur, the 4th and 6th and 1st division of the 5th are also paretic. This total ophthalmoplegia points to injury at the superior orbital fissure.

When paralysis immediately follows the injury, there has been a direct injury to the nerve. A delayed paralysis usually points to pressure, and here the prognosis is better.

*Nystagmus* is not a common reliable sign in

cranial injury and has little diagnostic significance as regards localization. Walsh states that if it persists for more than 2 or 3 hours, it may suggest injury to the brain stem or fracture of the temporal bone.

*Pupillary phenomena* are the most constant sign in cases of head injury. Pupillary changes usually come on immediately after trauma to the head, but vary frequently. One or both pupils may assume a different size or shape or become eccentric within a few hours.

The dilated pupil is usually on the side of the injury to the brain. Widely dilated pupils fixed to light are seen in patients who are comatose, and such patients usually die. Unilateral dilatation of the pupil with loss of response to light is common in head injury. It is common in extra-dural hemorrhage. Since this sign may be incomplete and transient, careful observation of the pupils is essential. Unilateral dilatation and fixity to light may be dependent upon injury to the optic nerve, but in this case the consensual reaction will be present.

The pupils may, also, be unequal in size, irregular in shape, sluggish to light and changeable in size. These changes are probably incomplete examples of dilated and fixed pupils.

Contracted pupils, which may or may not react to light, are not infrequent in head injury. The change may be unilateral or bilateral. Bilateral miosis may point to positive hemorrhage or intraventricular hemorrhage. The majority of contracted pupils react to light, and the prognosis is usually better than in those cases with dilated pupils. Contracted pupils probably originate from interruption of the sympathetic in many instances, in its course through either the pons or medulla.

An eccentric pupil points to a decidedly poor prognosis. In this type of case, the brain stem is involved.

*Horner's syndrome* may be observed from the result of lesions within the pons or medulla. It is characterized by ptosis, miosis, narrowing of pupil, loss of sweating and increased temperature on the homolateral side. If fibers are injured within the cavernous sinus, there will be no change in sweating, for the fibers that control this have already been given off.

The oculocardiac reflex should be kept in mind, for it must be considered in the differential diagnosis between local eye and orbit injuries and intra-cranial involvement or subdural hematoma and subarachnoid hemorrhage.

*Papilledema* is not uncommon in the acute stage of head injury and is probably a symptom of increased pressure of the cerebrospinal fluid. It usually subsides completely without impairment of vision, and it is rare for a secondary optic atrophy to occur following head injury.

*Retinal hemorrhages* have been observed following head injuries and as a rule are in the nerve fiber layer.

*Optic nerve injuries* are not infrequent in head



trauma. The nerve may be divided within the orbit or in the cranium. Direct injury to the nerve results in optic atrophy as well as narrowing of retinal arteries. Usually such atrophy does not become apparent for about 3 weeks unless the nerve has been divided close to the globe (when the artery is also divided). Then the picture is that of obstruction of the central retinal artery, and pallor is present immediately. Unilateral optic atrophy should always suggest an injury to the optic nerve.

**Chiasmal Lesions.** Traumatic bitemporal hemianopia is a relatively rare condition, but it does occur. The usual cause is injury to the front of the head from a fall from a height or hitting the dashboard in a car. Wernicke's hemianopic pupillary reaction may be elicited in this condition. There is a difference of opinion as to the exact mechanism, but some think there is a gross division of chiasmal fibers. Traquair and Walsh believe that interference of blood supply at the chiasm is the main mechanism.

**Tract lesions** produce homonymous defects in the visual field. Actual involvement of a tract is relatively rare because of its small size and the fact that it is protected by overlying parts of the brain. Wernicke's pupillary reaction is positive, and this fact is used to exclude an optic radiation lesion where it is absent.

**Injury to association pathways** may account for visual inattention, defective localization in space, loss of topographical memory, visual object agnosia, and alexia.

**Conclusion:** Ocular signs in trauma to the head occur frequently and, when properly recorded and evaluated, are of great importance in diagnosis and treatment.

#### BIBLIOGRAPHY

- Blakeslee, L. A., *Eye Manifestations in Fracture of Skull*, Archives of Ophthalmology, 2:566-572 (Nov.) 1929.  
 Cohen, M., *Eye Manifestations Complicating Fractured Skull*, Archives of Ophthalmology, 46:258-265 (May) 1917.  
 Dandy, W. E., *Cranial Injuries and Their Effects*, in Lewis's Surgery, Vol. XII, p. 265-323.  
 Cogan, David G., *Neurology of Ocular Muscles*, (Springfield, Ill., Thomas, 1948) 29-167.  
 Walsh, F., *Neuro-Ophthalmology*, (Baltimore, Williams & Wilkins, 1947) 1012-1028, 1246-1255, 1260-1264, 43-85, 248-260, 245-346.  
 Hooper, R. S., *Orbital Complications of Head Injury*, The British Journal of Surgery, 39:126-138, (Sept.) 1951.  
 King, A., and Walsh, F., *Trauma to the Head, With Particular Reference to the Ocular Signs*, American Journal of Ophthalmology, 32:191-207, 379-399, (March) 1949.  
 Hogan, M., *Ocular Contusions*, American Journal of Ophthalmology, 35:1115-1125, 1952.  
 Gurau, Henry H., *Eye Manifestations of Head Injuries*, Journal of Iowa State Medical Society, 42:256-260, (June) 1952.  
 Blender, W. P., *Ocular Signs of Head Injuries*, New Orleans Academy of Ophthalmology, 1950.  
 Lyle, D. J., *Eye Manifestations of Head Injuries*, J.A.M.A., 123:873-879, (Dec. 4) 1943.

#### A. C. S. INDUCTS IOWANS

At the October meeting of the American College of Surgeons, in Chicago, Dr. Michael Bonfiglio, Dr. Joseph A. Buckwalter and Dr. David A. Culp, all of University Hospitals, Iowa City, and Dr. G. Travis Westly and Dr. Lawrence O. Ely of Des Moines, were inducted as fellows.

#### State University of Iowa College of Medicine

#### CLINICAL PATHOLOGIC CONFERENCE

March 25, 1953

#### SUMMARY OF CLINICAL FINDINGS

**First Admission:** A 36 year old white housewife and restaurant operator was admitted to the hospital complaining of excessive fatigue and increased skin pigmentation of seven months' duration as well as loss of hair and amenorrhea for four months.

Seven months before admission, she experienced the sudden onset of an illness characterized by nausea, vomiting, diarrhea, and anorexia. An illness with similar symptoms was rampant in the neighborhood. The stools were watery and green, and occurred five to six times daily. These symptoms persisted for six weeks, and she lost 40 pounds. A physician whom she consulted told her she was anemic and gave her two blood transfusions and administered injections of crude liver.

After the diarrhea stopped, she remained markedly fatigued. Darkening of the skin about her hands and mouth appeared. This extended over her entire body. She became alarmed at rapid thinning of scalp, axillary, and pubic hair. Her menstrual periods ceased. Five months before admission she noted shortness of breath on exertion, ankle swelling, numbness, and tingling of her hands and feet.

The past history revealed an episode of jaundice lasting one week at the age of seven. She admitted drinking 1½ quarts of beer daily, for the last 17 years, and taking a daily "shot" of whisky for the last five years. She had never been pregnant.

The physical examination showed the skin to be generally hyperpigmented, with a dirty brown hue, most prominent over the face, hands, and external genitalia. No pigment was observed in the mouth. Many vascular spiders were present. The scalp, axillary, and pubic hair was scanty. The heart and lungs were normal. The blood pressure was 140/78 mm. Hg. The liver was smooth, non-tender, and firm. It was palpable four fingerbreadths below the right costal margin. The tip of the spleen was palpable. Signs of ascites were present. There was left adnexal tenderness, but no mass. External and internal hemorrhoids were present. There was slight pitting edema over the ankles. The nail beds and sclerae were pale. No jaundice was noted. The rectal temperature was 101.2°F.

**Laboratory Data:** Hemoglobin was 8.5 Gm. per 100 ml., the red blood cell count was 2,510,000 per cu. mm., and the white blood cell count was 5,700. The fasting blood sugar was 83 mg. per cent. Plasma proteins revealed an albumin of 3.42 Gm. per 100 ml. and a globulin of 3.48 Gm. per 100 ml. Prothrombin time was 1 minute 8 seconds (C 37 seconds). The cephalin flocculation was 24-2 plus. Thymol turbidity was 9 units and ZnSO<sub>4</sub> 13 units.



Van den Bergh was 1.3 mg. per 100 ml., sodium 300 mg. per 100 ml., and potassium 19 mg. per 100 ml. The bromsulphalein was not done. The protein-bound iodine of the serum was 6.3 micrograms per 100 ml. A catheter specimen of urine was normal.

Roentgenograms of the chest, skull, and abdomen were normal. Intravenous pyelograms were normal. The Kepler-Power water test was positive. The Thorn test, using both ACTH and adrenalin, was positive.

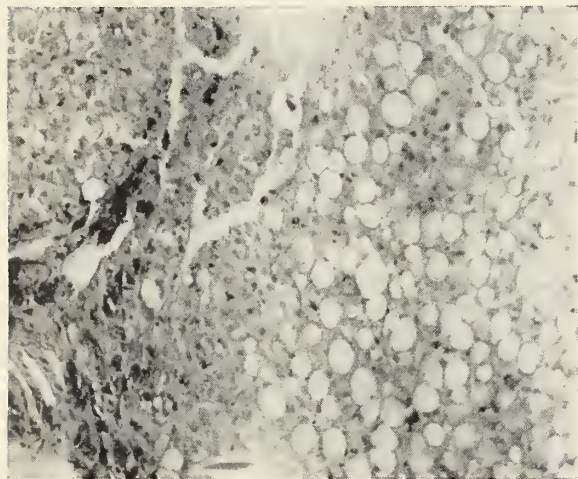


Fig. 1. Needle biopsy of liver at first admission. Iron stain. The liver shows fatty metamorphosis, scarring and hemosiderin deposition.

She remained in the hospital for five months, during which time the dermal pigmentation decreased, the hair became thicker, menstruation resumed, the anemia vanished, and appetite and a general sense of well-being returned. Supportive therapy consisted of penicillin, streptomycin, Vitamin K, nicotinamide, brewer's yeast and vitamin preparations, crude liver extract, and high protein diet. She was discharged markedly improved on a regimen of vitamins, crude liver extract, and high protein diet.

*Second Admission:* (three months later) She was admitted to the hospital for re-evaluation. She had no complaints and still felt well. She had maintained the regimen prescribed. She was working daily as a cafe manager. The hair was thicker and menstruation was regular.

The physical examination showed a marked decrease in the dermal pigmentation. The liver was still enlarged but function studies were normal. An x-ray picture of the esophagus with barium was normal. She was advised to continue vitamins and the high protein diet.

*Laboratory Data:* Hemoglobin was 11.4 Gm. per 100 ml., and the white blood cell count was 4,300. Plasma proteins showed an albumin of 4.32 Gm. per 100 ml. and a globulin of 2.48 Gm. per 100 ml. The cephalin flocculation was 24-0. Thymol turbidity was 5 units and  $\text{ZnSO}_4$  13 units. Van den

Bergh was 0.8 mg. per 100 ml. Bromsulphalein was 3 per cent. Chemical examination of the stool for blood was negative.

*Third Admission:* (Out Clinic, seven months later) The patient then returned for a scheduled re-examination. She continued to feel well. The liver and spleen were still palpable. Laboratory examination reflected her state of well-being. She was asked to continue her vitamins and diet but to discontinue liver injections.

*Laboratory Data:* Hemoglobin was 14 Gm. per 100 ml., the red blood cell count was 4,950,000 per cu. mm., and the white blood cell count was 6,400. Plasma proteins revealed an albumin of 3.89 Gm. per 100 ml., and a globulin of 3.58 Gm. per 100 ml. The cephalin flocculation was 24-2 plus. Thymol turbidity was 7 units and  $\text{ZnSO}_4$  12 units. Van den Bergh was 1.1 mg. per 100 ml. Cholesterol was 231 mg. per 100 ml.

*Fourth Admission:* (five months later) She was admitted to the hospital acutely ill. She had been well until six weeks before admission, when increasing lethargy and profound fatigue forced her to decrease her activities markedly. She remained in bed most of the day. There was increasing pigmentation of the skin. The legs and abdomen began to swell. The swelling suddenly subsided some three weeks before admission and was accompanied by a pronounced diuresis. For two weeks before admission she had been plagued with diarrhea consisting of two or three watery, dark, blood-streaked stools a day. There was gradually deepening jaundice which began two weeks before admission. She had anorexia and nausea. The urine had been dark for two weeks. She admitted drinking two ounces of whisky every other day for the last five months. She had no fever.

The physical examination revealed a weary, lethargic, obviously ill white woman. The breath had a stale, penetrating odor. The skin was a dirty brown hue with a greenish cast. This was most prominent on the hands, face, neck, and arms. There were numerous vascular spiders. The mucous membranes were deep yellowish green. Scalp, axillary, and pubic hair was sparse. The precordium was overactive. The blood pressure was 105/40 mm. Hg. The liver was palpable six fingerbreadths below the right costal margin but it was firm and only slightly tender. Ascites was present. There was moderate pitting edema over the legs, sacrum, and abdominal wall.

*Laboratory Data:* Hemoglobin was 5.6 Gm. per 100 ml., the red blood cell count was 1,550,000 Gm. per 100 ml., and the white blood cell count was 10,200. The fasting blood sugar was 90 mg. per cent. Plasma proteins showed an albumin of 3.29 Gm. per 100 ml. and a globulin of 3.22 Gm. per 100 ml. The prothrombin time was 48.5 seconds (C 15.5 seconds). Van den Bergh was 1 minute 6.3 seconds. Sodium was 320 mg. per 100 ml. and potassium 17 mg. per 100 ml. Cholesterol was 92 mg. per 100 ml. and platelets 16,000 per cu. mm.



A soft diet, supplementary vitamins, and choline were given. The day after admission, the patient became semi-comatose and disoriented. Intravenous glucose with vitamins and whole blood was given. On the third hospital day she lapsed into deep coma. Dark blood oozed from the nostrils and mouth. Death occurred quietly on the fourth hospital day.

#### CLINICAL DISCUSSION

*Dr. Raymond F. Sheets, Internal Medicine:* This young housewife was admitted to the hospital with symptoms of excessive fatigue, increased skin pigmentation, loss of hair, and amenorrhea. These symptoms immediately suggest Addison's disease or hemochromatosis. On the other hand, when one sees hyperpigmentation, one should also think of a number of other things. For instance, myxedema or thyrotoxicosis on occasion can be associated with pigmentation. Metal poisoning from arsenic, silver, or bismuth also produces pigmentation of the skin. Cirrhosis of the liver is occasionally associated with dark skin.

The acute episode characterized by nausea, diarrhea, vomiting, and anorexia could be explained by an infectious disease of the gastro-intestinal tract which was occurring in the neighborhood. On the other hand, I think the duration of the symptoms was somewhat long for that unless it were one of the specific dysenteries. If one attempts to explain these symptoms by the primary disease, one runs into difficulty, although probably the major complaints associated with her primary disease started about this time. Later on, she began to notice shortness of breath and ankle swelling. These can be explained probably by the anemia. The numbness and tingling of the hands and feet may well have been associated with peripheral neuritis.

In the past history there is definite indication that she took fairly large quantities of alcohol. The physical examination is entirely compatible with what one would find in cirrhosis: spiders, enlargement of the spleen and liver, and ascites. The left adnexal tenderness is quickly passed over in the protocol, but it should be expanded to include the observation that a large quantity of pus was being discharged from the cervical os. Associated with the fever and tenderness, this was thought to be due to pelvic inflammatory disease and accounts for the treatment with penicillin and streptomycin.

There was marked anemia and abnormal serum proteins. In addition, the glucose tolerance test done at this time was normal. Because Addison's disease was logically suspected under the circumstances, the Kepler-Power water test was done and was positive. This test depends upon detecting an abnormal excretion of urine after ingestion of a determined volume of water. In evaluating this test, one must realize that cirrhosis and other conditions can also cause abnormal water retention. The Thorn test was positive. This study was done sometime in 1950 when the test was relatively new.

Since then, it has been found that the test done with epinephrine is not valid. Probably when done with ACTH under rigidly controlled conditions, it is a true test of adrenal function.

At this time, a number of x-rays were taken, and they were normal with the exception of one which Dr. Forbes will show at this time.

*Dr. Stephen A. Forbes, Radiology:* As stated in the protocol, the chest film and the intravenous pyelograms are all normal. There is one abnormal finding of interest on the pyelograms, however, and that is an enlarged spleen. The lower pole of the spleen extends downward to the level of the lower pole of the left kidney.

Films of the abdomen in the horizontal and upright positions also show the enlarged spleen. The liver does not appear to be enlarged.

*Dr. Sheets:* We passed over one point which I should like to emphasize—that the blood pressure was 140/78 mm. Hg. Ordinarily one wouldn't say that this is compatible with Addison's disease, but we have seen two patients who were formerly hypertensive but after they developed Addison's disease their blood pressure came down to the range of 140/80 mm. Hg.

So, the clinical diagnosis lay between Addison's disease, hemochromatosis, and cirrhosis plus pigmentation. Treatment was directed primarily at liver disease.

The patient showed considerable improvement while in the hospital and was discharged after a number of months to return in three months. In the interval, she continued to improve and do very well. The chemical tests returned to normal, and there was subjective improvement. A second skin biopsy was performed, the first having been on the first admission. I should like Dr. Radcliffe to talk about the skin biopsies now.

*Dr. Christian Radcliffe, Dermatology:* This patient was seen in the Dermatology Out-Clinic on two occasions, once in November of 1950 and again in June of 1951. When first seen in 1950, she showed considerable pigmentation on the body

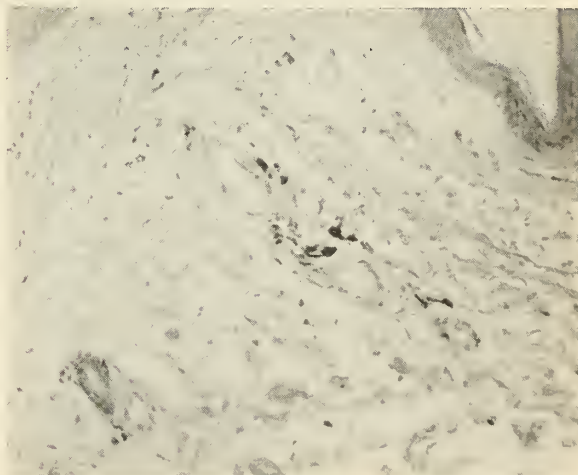


Fig. 2. Skin biopsy at first admission, stained for iron.

circumoral area and vulva; however, no pigmentation was present in the axillae, around the nipples, or in the buccal mucosa. At that time we felt, considering the blood pressure and the distribution of the lesions, that it was not an Addison's type pigmentation.

A biopsy from the lateral aspect of the right arm and including an overlying spider nevus, in November of 1950, showed hemosiderin pigmentation in the membrane propria of the sweat glands. It showed a little bit, I believe, in the upper part of the corium in the phagocytes. On that admission a rather patchy loss of hair was noted and we had no explanation for that unless her systemic disease was severe enough to produce toxic alopecia. It can come, as you know, after scarlet fever or a good many other rather severe illnesses.

The second time we saw her was in June, 1951. Clinically, she looked a great deal better, the pigmentation had receded somewhat, and there was regrowth of hair. A biopsy on the arm was negative for hemosiderin in the diagnostic site. While mentioning it, I should state also that we feel that when one is trying to diagnose hemosiderosis or hemochromatosis, the site of selection for biopsy is extremely important. These two biopsies, as you know, were taken from the arm. If the biopsies are taken from the leg, the lower leg particularly, there can be a great deal of confusion from the ordinary amount of hemosiderin deposition that occurs in anyone as the years advance. The stain was Prussian blue, and the diagnostic findings were the occurrence of pigment due to hemosiderin in the membrane propria of the sweat glands.

*Dr. Sheets:* I should like to ask Dr. Radcliffe what the significance of finding iron in the first biopsy and not in the second indicates.

*Dr. Radcliffe:* I have no answer to that.

*Dr. Sheets:* She went home then with about the same instructions as to therapy previously received and returned to the Out-Clinic seven months after the second admission. At that time she was still improved and doing quite well. During this ten month period, as far as we were able to determine, the diet had been good and her alcohol consumption had been minimal.

The fourth admission five months later was precipitated by an acute illness six weeks before. She was admitted to the hospital with signs of rapidly progressing liver decompensation. She died after four days in the hospital with typical findings of cholemia. Shortly after she was seen here on the third admission, she began drinking two ounces of whisky every other day. What happened to her diet in that interval we do not know, but probably it was not maintained in the same quantity and quality as previously. I think also one should question the actual quantity of whisky when the patient, who has formerly taken considerable amounts of alcohol, says she's able to keep her intake to

two ounces every other day. Probably she consumed considerably more during the five months before the last admission.

*Dr. Frederick W. Stamler, Pathology:* I want first to show some of the slides prepared from the various biopsies. This is a biopsy of the skin taken at the time of the patient's first admission here. It is an iron stain showing the reaction of iron stained blue by the potassium ferrocyanide reaction. There is moderate deposition of iron in the perivascular areas and about the sweat gland tubules. A few phagocytes scattered indiscriminately throughout the dermis show some blue stain. There also is considerable melanin in the basal layer of the epidermis to account for some of the generalized increase in her pigmentation.

The needle biopsy of the liver, taken at the time of her first admission, shows nodular masses of liver tissue with considerable scarring at the peripheries and very pronounced fatty metamorphosis of liver cells. There is considerable iron deposition, which is most prominent in the more intact cells at the peripheries of the masses of liver tissue and in the scar tissue between the nodules of liver tissue. Many of the fatty degenerated cells contain very little stainable iron; indeed, they appear to have little protein or capacity to retain iron.

A similar liver biopsy taken on one of her later admissions showed that she had made considerable clinical improvement on a high vitamin diet. Here the same pattern is seen: rather large masses of liver cells outlined by a zone of scarring. Most of the fat has disappeared from the liver cells and most of them appear much more normal cytologically than in the first biopsy. There is perhaps more iron deposition, if we can judge by this small sample obtained, and more of the liver cells contain appreciable amounts of iron, perhaps because they contain protein components capable of binding iron.

At the time of autopsy there was extensive storage of iron in many of the parts of the body. The liver again showed advanced fatty changes and, as a whole, corresponded well with the previous biopsies. I think they did give a pretty good indication of what the liver was like at the time of the various biopsies. There was a rather early pattern of portal cirrhosis with extreme fatty metamorphosis and iron pigmentation of the liver. Probably related to the liver disease were the rather generalized hemorrhagic manifestations; blood was found in the esophagus, stomach, and the small intestines, and also in the gall bladder. There were hemorrhages of the soft tissues of the body indicating that some sort of hemorrhagic diathesis existed. No gross bleeding points were demonstrated in the intestinal tract or gall bladder, and since esophageal varices could not be found, the bleeding apparently was not on that basis.

There also was some edema and ascites and bilateral hydrothorax. Other findings included left pyosalpinx, which apparently was part of the pel-



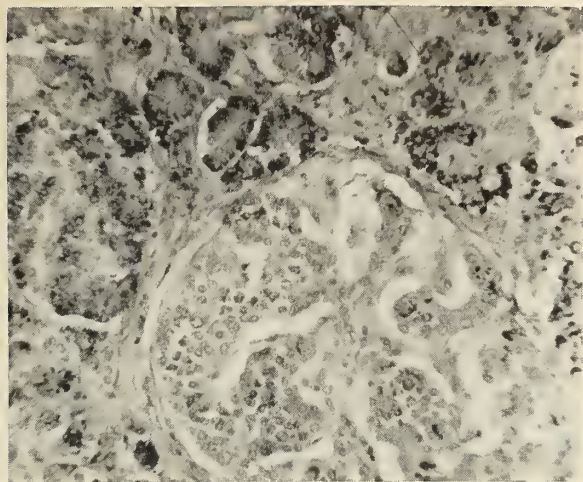


Fig. 3. Photomicrograph of pancreas at autopsy. The stainable iron is most abundant in acinar epithelium.

vic inflammatory disease that had been noted on her first admission.

Now, I would like to say a little more about the iron storage. We did quantitative determinations and found a total content of 7.455 Gm. of iron in the liver, which is roughly 15 to 20 times the normal limit and is also considerably in excess of normal total body iron. There was also considerable iron in the pancreas, with early fibrosis of this organ. Stainable iron was found in considerable quantities in the outer zone of the adrenal cortex. Some was found in cardiac muscle and pituitary gland, and small amounts were found elsewhere, such as in the phagocytes of the intestinal mucosa and in the convoluted renal tubules.

The reticuloendothelial system was of special interest. In general, there were very slight amounts of iron in this system. The bone marrow was almost devoid of stainable iron and likewise very little iron was found in the spleen. In certain lymph nodes there were very heavy deposits of iron, especially in those of the upper abdomen, those relating to the region of the pancreas and hepatic portal area. In contrast, the nodes from the thorax were almost devoid of iron storage. Therefore, the pattern was peculiar.

#### SUMMARY OF NECROPSY FINDINGS

Necropsy findings were compatible with a diagnosis of hemochromatosis with hepatic and pancreatic fibrosis and severe hepatic fatty metamorphosis. The amount of stored iron was much less than usually seen in the end stages of the disease, but the calculated amount in the liver alone (7.455 Gm.) was much more than could be accounted for on the basis of exogenous iron from all transfusions recorded.

The distribution of the stored iron, with deposition principally in liver, pancreas, and abdominal lymph nodes, is that seen in conditions of abnormal alimentary absorption, rather than the generalized reticuloendothelial involvement seen

following excessive parenteral administration. The severe hepatic disease, with extreme fatty metamorphosis, cirrhosis, bile stasis, and hemorrhagic diathesis, apparently caused the patient's death before the complete picture of advanced hemochromatosis was attained. Incidental findings included pyosalpinx and uterine leiomyomata.

#### NECROPSY DIAGNOSES

Hemochromatosis.

Hepatic cirrhosis and fatty metamorphosis, severe.

Jaundice, severe, with bile stasis of the liver.

Ascites and hydrothorax.

Gastro-intestinal hemorrhage.

Petechiae of the skin of the chest, back, and abdomen.

Hemorrhage, recent, gall bladder.

Pyosalpinx, left.

Chronic congestion of the spleen with splenomegaly.

Leiomyomata, uterus.

*Dr. Sheets:* We have attempted today to set up the problem around iron metabolism: what is hemochromatosis? What is the effect of abnormal quantities of iron in the body? Did it get in by the parenteral route or through the gastro-intestinal tract? What is the relationship of cirrhosis to the syndrome of hemochromatosis? *Dr. Eckhardt,* would you like to talk to us about cirrhosis?

*Dr. Richard D. Eckhardt, Internal Medicine:* Chronic alcoholics can be divided into two groups. They are either spree or chronic drinkers. The groups sometimes overlap. As a rule, these people have trouble after about 20 years of drinking. The story of this lady goes back for 17 years of chronic drinking until shortly before her first admission, when she became a spree drinker in addition.

She is the picture of a person who has drunk heavily and who comes to the hospital acutely ill because of her heavy acute alcoholic intake. She had what would be classified, if you exclude her

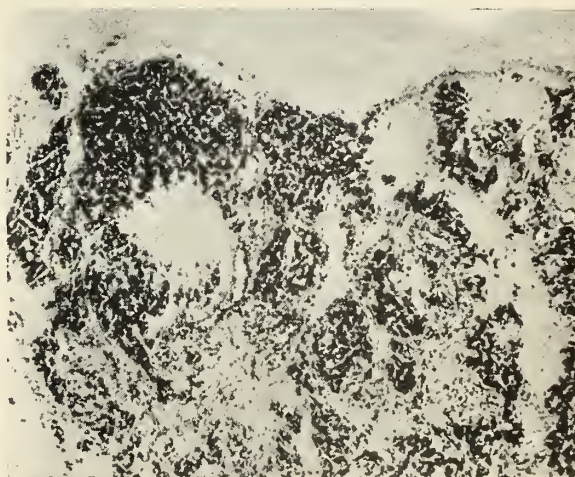


Fig. 4. Peri-pancreatic lymph node at autopsy, showing very heavy iron staining of reticulo-endothelial portions.



pigmentation, which may or may not be a red herring here, as acute fatty cirrhosis. Acute fatty cirrhosis is well known to the pathologist, but the textbooks and journals barely mention it. Acute fatty livers ordinarily come on after a period of heavy spree drinking with almost total abstinence from food. These people have usually been on a "bender" for a matter of a month or so, and toward the end of that time, they become extremely weak, fatigued and restless, and they sometimes enter a hospital in incipient or overt delirium tremens. They may or may not be jaundiced. The liver may be markedly enlarged, and oftentimes is very tender. Liver function tests are usually markedly abnormal. A liver biopsy looks like a piece of omentum through the microscope. A few liver cells are seen here and there, and there is a moderate amount of fibrous tissue. The fibrous tissue present in this lady's liver probably didn't impair her liver function very much. It was the fat that probably caused the trouble.

Patients suffering from this disease ordinarily get better almost regardless of what you do. Now, why did it take this lady so long? She took five months to get better because of other illness in addition. She had abused her general state of health over a period of many, many months and had rather marked peripheral neuritis. If these people live well, eat well and don't drink, they get along very neatly until finally, for some reason, they resume drinking alcohol. This lady started in again and died.

I think if she had been salvaged the second time, she then would have gone along and done quite nicely. Her fat would have disappeared from her liver in a matter of a month or two, and she would have ended up with a small amount of fibrosis which probably would not have caused her trouble for years, if ever.

Liver function tests and findings are variable in this condition, as I mentioned. If a patient has been eating well and stays off liquor for a period of time, his liver function tests return to normal, as this woman's did. She had amenorrhea perhaps secondary to disease of the liver, but this certainly is seen frequently in women who have acute fatty cirrhosis of the liver. As these people improve, their menstrual periods come back. In contrast, females with chronic hepatic cirrhosis or fibrosis frequently continue their menstrual periods unless they have a rather acute upset of their chronic disease.

Lack of hair is a common finding in these people, and as they become better the hair grows back. Occasionally these people have rather acute pigmentation, but this also clears up as they improve. The pigmentation is usually melanin, although there are occasional patients who have hemosiderin deposits in their skin. That, too, can clear up. The explanation is unknown, and whether there is an abnormality of iron metabolism in

certain patients with liver disease or whether it's coincidental, I have no way of knowing.

The abnormal water retention gave us a little concern for a while, but if you will recall, all patients with hepatic disease, when acutely ill, have abnormal water retention. That's certainly true in acute infectious hepatitis as well as in advanced cirrhosis. The ascites and edema which this lady had were also different from that which we see in chronic hepatic cirrhosis with fibrosis. In chronic hepatic disease, the primary finding is that of ascitic fluid. If that becomes marked and is associated with increased venous pressure in the lower extremities, there will be some peripheral edema also. This patient had rather generalized edema of the abdominal wall and the legs, and some fluid in the abdomen. That is more commonly seen in individuals who come in with acute decompensated liver disease, particularly if there is associated undernutrition. This lady died in what would be called classical liver coma or cholemia.

I think one thing worthwhile remembering is that if you see a large group of patients with liver coma, which is essentially a sleeping state and poorly understood, approximately half of those patients will have their coma precipitated by hemorrhage, by infection, or by over zealous and often injudicious use of sedatives or narcotics. The other half of the patients, as far as we know, are people who just have a failing liver. The reason to think of these things is that sometimes you can treat the liver coma by treating whatever precipitated it, and the patients can recover and lead a relatively worthwhile life.

*Dr. Stamler:* I just wanted to add that, as I pointed out, the degenerated liver cells contained very little stainable iron. In the second biopsy, when the liver cells appeared more nearly normal, they did contain considerable quantities. This finding fits in with the concept that some of the acute liver crises may be due to the breakdown of the liver cells with the release of ferritin, and that the vasodepressor activity of ferritin may explain some of the symptoms that occur, particularly the shock.

The work of Shorr and his group at Cornell seems to substantiate this view, and certain of these histologic views of the liver fit in with the idea that the damaged liver cell severely infiltrated with fat cannot retain the iron-containing compound ferritin, the release of which may be accountable for some of the toxic effects seen.

*Dr. William B. Bean, Internal Medicine:* Is there evidence that ferritin and hemosiderin are the same?

*Dr. Stamler:* Hemosiderin supposedly is a sort of degradation product of ferritin in which there is a clumping together of ferric hydroxide micelles, with loss of the definite relationship to the protein component that characterizes ferritin.

*Dr. Henry E. Hamilton, Internal Medicine:* When this patient first came to the hospital, we very



seriously considered hemochromatosis because of the pigment, weakness, diminished sexual activity, lack of body hair, and cirrhosis. Diabetes usually completes the picture. This patient didn't have an abnormal glucose tolerance curve, yet all individuals with early hemochromatosis may have little to show for abnormal carbohydrate metabolism. Some observers have noted that persons with hemochromatosis have had sparse body hair from birth and that other normal members of the same family may have sparse axillary, pubic, and scalp hair. This item suggests that the disorder is hereditary. All the points here are in favor of hemochromatosis, and the final point in favor of this diagnosis is the excessive amount of iron in this patient's body. If we were absolutely sure of a diagnosis of hemochromatosis, the possibility of repeated phlebotomy as a therapeutic measure would become an important consideration. Recently, in other clinics, patients with hemochromatosis have been treated by the removal of a pint of blood weekly for months with considerable improvement. This is presumed to be due to the removal of large stores of iron from the body. As you can see, we were not sure enough of the diagnosis to go ahead with such measures, particularly when she improved under diet and hospital care.

I would like to comment on the problem of excess iron and iron metabolism. First, was there truly an excess of iron in this patient's body? Dr. Stamler indicated there was more than seven Gm. of iron in the liver alone. The normal human body contains about five Gm. Thus we can conclude that there was a tremendous increase in body iron. Next, we might ask, does this excess iron hurt the patient? Time and time again we have observed a marked increase in body iron, yet have seen no demonstrable harm from iron resulting. One was the case of hypoplastic or aplastic anemia treated with 200 or more transfusions. Dr. Hardin and I followed one such woman for about five years. Cirrhosis or diabetes did not develop, but death occurred from cerebral hemorrhage due to low platelet levels. We also have our two children with Cooley's anemia, who have been followed in this hospital for several years. Each child has had over 250 transfusions. A high body-iron content was present at birth, yet with all the added iron they are well developed children.

Since the patient under consideration has marked increase of iron in the body, we may ask how it got there. In normal people you will recall there is a very fine balance between iron intake and the slight amount lost by sloughing of skin or mucous membranes. Only one to two mg. of iron is absorbed daily across the gastro-intestinal membrane, regardless of the amount of iron presented to the gut. What, then, are some of the factors leading to an abnormal increase of body iron? The most obvious situation follows the intravenous in-

jection of large amounts of blood or of saccharated iron. I wish to emphasize that once this iron is introduced, it remains in the body unless lost by hemorrhage. Excess iron is also found in the body of patients with Cooley's anemia.

There are known conditions which cause an avid transfer of iron across the intestinal membranes and lead to excessive deposits in the body. The Gillmans described the condition called "cytoid-erythrocytosis" in the Bantu natives of Africa. It was shown that these individuals developed a picture similar to hemochromatosis due to a corn grit pellagra-producing diet. It was shown that a low phosphate content of the diet was a factor in facilitating the transfer of the iron across the membrane. There is also some evidence that more iron goes across the membrane in pregnant women and in patients with pancreatic insufficiency. There are undoubtedly other factors, and then finally we have the disorder of hemochromatosis. In this disease all the above factors have been excluded. There is presumed to be an "inborn" defect in the gastro-intestinal membrane.

Thus, as we review the known causes for excessive iron deposits, we can't come out with a definite explanation for this patient's findings. Dr. Sheets and I did tag-cell studies and demonstrated that she had a hemolytic anemia; yet the fact that there was hemolysis did not account for the seven Gm. of iron in the liver alone. It is known that she had been on a very poor diet for months, which may have accounted for excess transfer of iron to the body, much as was seen in the Bantu natives. On the other hand, I am quite interested in the fact that during the five or six months that she was in the hospital she improved considerably, although at the end of this period, there apparently was more iron in the liver than on the initial biopsy. Thus, I don't think we can rule out the possibility that this lady did have a disease in addition to her alcoholism, poor diet, and cirrhosis which caused an avid transfer of iron across the gastro-intestinal membrane. Under the circumstances of this case, I don't think the iron produced any physiological disability.

*Dr. Sheets:* This patient is an example of the clinical syndrome of hemochromatosis. I should think it would be worthwhile for us to go away with the thought that iron, when it is present in the body in abnormal quantities, must come from somewhere. This fact is overlooked quite often. One can't ascribe abnormally large deposits of iron in the body to a very few transfusions. Iron must be present in large quantities, and it isn't there at birth.

Iron must enter by the parenteral or gastro-intestinal routes. The other factor of importance in the production of hemochromatosis is the duration of the metabolic alteration which permits absorption of large quantities of iron. The abnormality of absorption must be present for a long time to permit ingress of iron in these quantities.

# The JOURNAL of the Iowa State Medical Society

ISSUED MONTHLY

EVERETT M. GEORGE, M.D., Scientific Editor.....Des Moines  
RANSOM D. BERNARD, M.D., Business Manager.....Des Moines  
MR. EDWARD W. HAMILTON, Assistant Editor.....Des Moines

## EDITORIAL BOARD

EUGENE J. BOYD, M.D.....Iowa City  
ALLAN G. FELTER, M.D.....Van Meter  
DANIEL A. GLOMSET, M.D.....Des Moines  
TOM D. THROCKMORTON, M.D.....Des Moines

## PUBLICATION COMMITTEE

LONNIE A. COFFIN, M.D., Trustee.....Farmington  
JOHN W. BILLINGSLEY, M.D., Trustee.....Newton  
WENDELL L. DOWNING, M.D., Trustee.....Le Mars  
ALLAN B. PHILLIPS, M.D., Secretary.....Des Moines  
EVERETT M. GEORGE, M.D., Editor *Ex Officio*.....Des Moines

## SUBSCRIPTION \$3.00 PER YEAR

Address all communications to the Editor of the Journal,  
529-36th Street, Des Moines 12

Vol. XLIII      DECEMBER, 1953      No. 12

## GOVERNMENT BUSINESS IS BIG BUSINESS

In Special Report #11 (Oct. 21, 1953) the Washington office of the American Medical Association presented a list of the medical and health budgets of all federal agencies. The federal government operates or participates in more than 60 varied health, medical and related programs scattered among at least 19 different departments, independent agencies and commissions. Few people would realize that the cost is in excess of one and three quarters billion dollars.

Here are the operating budgets to finance activities from July 1, 1953 to July 1, 1954:

Department of Health, Education and Welfare	\$340,553,000
Office of Vocational Rehabilitation	\$23,655,500
Food and Drug Administration	6,250,000
Children's Bureau	31,525,000
Bureau of Public Assistance	50,000,000
1. Old Age Assistance	
2. Blind	
3. Needy permanently disabled	
4. Dependent Children	
U. S. Public Health Service	
1. Office of Surgeon General	2,900,000
2. Tuberculosis Control	6,000,000
3. Venereal Disease Control	5,000,000
4. General Assistance to States	13,250,000
5. Communicable Disease Control	5,000,000
6. Engineering, Sanitation & Industrial Hygiene	3,162,500
7. Alaska (Disease and Sanitation Control)	1,082,000
8. Hospitals and Medical Care	33,100,000
9. Foreign Quarantine Service	2,900,000
10. National Institute of Health	71,153,000
a. National Cancer Institute	\$20,237,000
b. Mental Health Institute	12,095,000
c. National Heart Institute	15,168,000
d. Dental Health Institute	1,740,000
e. Microbiological Institute	5,738,000
f. Institute for Neurological Dis-	

eases and Blindness	4,500,000
g. Institute of Arthritis and Metabolic Diseases	7,000,000
h. General Funds (Research Grants)	4,675,000
11. Hospital Construction Grants (new)	65,000,000
12. Hospital Construction Grants (old)	19,700,000
13. Hospital Construction Administration	875,000
Veterans Administration	\$747,415,264
Administration (Dept. Medicine & Surgery)	\$ 7,757,900
Research	5,500,000
New Construction and Contract Liquidation	38,685,664
Supply Depot Operations	1,350,000
Contract Hospitalization	20,583,100
Domiciliary Care	24,248,200
Out-Patient Care	92,677,900
In-Patient Care	555,000,000
Medical Education and Training	1,300,000
Capital Expansion	312,500
Department of Defense	533,311,000
Army Medical Services	238,994,000
Navy Medical Services	161,429,000
Airforce Medical Services	132,801,000
Asst. Secy. of Defense	87,000
Department of State	14,127,733
World Health Organization	2,993,400
Pan American Sanitary Bureau	1,320,000
International Children's Emergency Fund	9,814,333
Department of Labor	8,960,000
Bureau of Employees' Compensation	8,500,000
Health and Safety Program	460,000
Foreign Operations Administration Technical Assistance Programs	24,500,000
Department of Interior	27,258,600
Bureau of Indian Affairs	21,400,000
Bureau of Mines	5,060,000
Alaskan Mental Health	798,600
Department of Commerce	621,000
Bureau of Standards	300,000
Civil Aeronautics Administration	321,000
Department of the Treasury, Bureau of Narcotics	2,790,000
Department of Justice, Bureau of Prisons	1,326,000
Independent Offices	68,019,600
National Science Foundation	8,000,000
Federal Civil Defense Admin.	26,650,000
Atomic Energy Comm. (medical)	26,565,000
Health Resources Advisory Committee	91,000
National Advisory Committee to Selective Service	265,000
Panama Canal Zone (medical)	5,448,600
Federal Trade Commission (medical)	1,000,000
Miscellaneous	\$ 7,000,000
Commission on Intergovernmental Relations	500,000
Commission on Organization of the Executive Branch of the Government	500,000
Federal Employees Health Programs	6,000,000

When anyone is confronted by the immensity of the above figures, as tabulated, there is certainly need to pause and reflect. The United States government has definitely become vitally interested in the health needs of the nation, and, indeed, of the whole world. Small wonder that certain individuals are tempted to gain control of such appropriations. And it is also apparent that there is some basis for the thinking of those who would establish a Department of Health in the U. S. Cabinet. Many of these funds are matched, wholly or in part, by the individual states. These figures represent the money appropriated by the first session of the 83rd Congress. Keep at least the size of these amounts in mind. Federal medicine has become big business.



## CAN WE HAVE A TWO-WAY STREET?

For the past few years, medical societies and physicians have been working hard at improving their public relations. They have had it dinned at them constantly that they must remember the patient's viewpoint; that they must "Do-As-You-Would-Be-Done-By"; that they must stress the value of insurance to their patients and keep their fees at a reasonable figure. They have been asked to improve, if need be, the office manners of their assistants and to keep their own on the highest level.

Medical societies have been asked to set up some system through which a patient may obtain a physician at any time. Doctors have been asked to respond to calls for emergency medical service. They have been asked to make necessary night or house calls. They have been urged to lean over backward to avoid giving any justification for complaint on the part of the patient that medical care cannot be obtained.

The importance of going into the matter of fees has been reiterated to them. They have been urged to explain to their patients what the probable cost of medical care or surgery will be, and to differentiate between medical costs and probable hospital costs.

All of these things are good, and we as doctors should keep them in mind as the objectives toward which we should strive.

Being only human, however, sometimes we wonder if a two-way street couldn't be made of this public relations matter; whether the patients might not assume more of their obligations in this matter of medical care. Just as it is true that the vast majority of doctors represent the highest ideals of medicine but are tarred by the few who deviate from this concept, so it is true that the vast majority of patients accept their responsibilities but are lumped with the others when the composite picture is drawn.

Doctors might reasonably complain of the patient who always calls at the dinner hour. "I just didn't want to interrupt you at the office, Doctor." They might cite the patient who calls late at night after having been sick for three or four days. They might criticize those who choose Sundays on which to call for advice which could just as well be given during the week.

When a patient goes to a doctor, he owes it to himself and to the doctor to give him the full story. If he withholds information as to symptoms, he may bring upon himself the expense of diagnostic procedures which could have been omitted had the doctor had the full story. Once having gone for care, he should follow the doctor's instructions and cooperate with him. If he does not, he has no ground for complaint if he does not obtain the recovery he wished.

Patients should not demand unnecessary house calls. Almost every doctor works far more than the usual eight hours a day. He has a seven instead

of a five day week. He needs to conserve his energy when and where he can.

When it comes to the matter of fees, also, the public has an obligation to the physician. His expenses have risen steadily. His living costs have increased just as the patient's have. There is no reason why he should not be paid as promptly for service rendered as the plumber, the electrician, the auto mechanic, or anyone else.

Doctors have been criticised in some quarters on their conduct when insurance enters the picture. There are some who say doctors charge more if the patient has insurance. Here the vast majority of physicians who are innocent receive the blame for the few who sin. But are the patients guiltless? How many physicians have had patients ask them to falsify their report so that the patient's insurance would cover? How many patients ask physicians to swear to disability that does not exist? How many patients collect on their insurance and fail to pay their doctor?

It has been common sport to take a crack at doctors in many gatherings. If it weren't that doctors themselves are pledged to keep confidential their dealings with their patients, some ears might burn.

It has been interesting to note, in the recent hearings held by the House Committee on Interstate and Foreign Commerce, in Washington, the increasing emphasis upon the necessity for people to accept as inevitable the payment of some medical costs for themselves. No one expects his automobile insurance to cover everything that may go wrong with the car. He has learned to expect an occasional repair bill. No one expects a house to stay in good repair without occasional help from an electrician, a carpenter, a plumber, of what-have-you. Why, then, should anyone think he can go all of his life without incurring some out-of-pocket medical expense?

Insurance actuaries who testified at the hearing were unanimous in stating that the cost of insuring against all medical expense would be greater than the probable medical expense; all were in substantial agreement that the great need was to provide insurance against catastrophic or prolonged medical costs.

People accept the necessity of paying for groceries, for heat, light and lodging, for clothing. They fight for their right to pay for luxuries such as tobacco, liquor and amusements, the figures for which far exceed the cost of medical care. Isn't it time they realize that they inevitably must make some allowance for medical costs? The vast majority of people are going to need medical care just as surely as they need food and shelter; they should face that fact and budget for it just as they do for the other necessities of living. After that, they should consider insuring themselves against the catastrophic things, just as they buy deductible collision insurance for their cars.

We feel confident medical societies and doctors

themselves will continue their efforts to provide the best and most complete medical care to their patients, but we believe it might be well again to stress the public's responsibility in procuring that care.

### DOES THE DOCTOR COOPERATE?

How often we hear that "so and so" is a very cooperative patient. But, in return, are we always as cooperative as we desire our patients to be? Patients are often heard to say, "Dr. Blank didn't tell me anything. You know a doctor never does tell you anything." Is this not an indictment of our profession? This specific remark is made so often that perhaps we should take stock of our medical ethics.

In the first place where does cooperation begin? A patient has an ailment. The doctor does not go out to seek him and bring him in. Rather, the patient comes to his chosen doctor. Here the doctor cooperates by patiently listening to a careful review of symptoms and complaints and to pertinent facts regarding individual history, family history, etc. Then he goes further by employing physical examinations, laboratory tests and anything else that is necessary to the establishment of a reasonable and accurate diagnosis. But there, as often as not, cooperation ends. He gives his patient a box of pills and a slap on the back and tells him that he will be all right and to come back in a week.

Perhaps in the old days of mysticism, superstition and explicit faith, this might reasonably have been done. Today, however, with a populace enlightened and educated by the radio, television and the lay press, including the well known magazines, our patients expect and demand still further cooperation. Hardly is an examination completed before they want to know frankly what the answer is. True, we cannot always tell them the whole story at the first interview, but we can at least explain our impressions and the basis for our conclusions.

A professor once told the members of a graduating class in medicine that the longer a man is in practice the slower he is at making a definite diagnosis, and yet, strangely enough, the more confidence his patients have in him. Our patients today are thinking along with us and sometimes (or so they believe) ahead of us. It pays for us to be frank with them. We must be frank with them whether the prognosis is good or bad. They have a right to know, and indeed they must know if they are to carry out the regimens that we prescribe. This does not mean that we are to crush them with a blunt statement that nothing can be done. A cardiac patient who is in serious difficulty should know that he has a heart that has to be given good care. He may be told that he has the most popular disease of the times and that many others like him have lived and enjoyed life. He and his doctor have confided in one another, and

thus, together, they can and will accomplish more than either could have done alone.

A cancer patient should never be told that he does not have cancer. Neither should the truth be forced upon him. It is remarkable how few ask the question so that it has to be answered with a "yes" or "no," and yet how few of our patients fail to suspect the diagnosis. Their intelligence may be insulted by denying them the truth. Once the diagnosis has been confirmed, no one else has a better right to know. Yet we may still offer hope by describing new methods of treatment that either have been or seem about to be discovered, and so bring relief.

When we feel the need of sending our problem cases to available clinics, our patients appreciate our willingness to cooperate in getting them admitted. And when they return and we receive our highly scientific résumé of the results of the examination and treatment at the clinic, how grateful they are to have us explain it all in lay language!

Yes, we all appreciate cooperative patients, but just as surely does the public appreciate the doctor who cooperates by recognizing his patient as a rational and reasoning individual.

### HOW'S ABOUT THAT QUESTIONNAIRE?

The tabulation of answers to the Legislative Committee's questionnaire indicates that an overwhelming proportion of the doctors who recognize the importance of the legislative proposals affecting medicine endorse the stands which the Committee and, in many cases, the AMA have taken. The replies, as they are summarized at the end of the editorial section of this issue of the JOURNAL, show that 9 out of 10 agree in nearly all instances.

For taking the trouble to poll us on these questions, the Committee deserves our praise and, indeed, our gratitude. There was no other means by which it could discover whether or not it was working for causes that we believed in.

It is very much too bad, however, that only about one-third of us took pains to stand up and be counted. *Pains* unquestionably is the right word, since answering questionnaires takes both time and energy for which each of us has many other uses. But unified political action is one of the major potentialities of such organizations as ours, and if our Society is to serve us as it can and as it should, we need considerably nearer 100 percent cooperation.

As they have done in other years, the members of the Committee, together with the officers of the Society, will call upon the Iowa senators, congressmen and legislators to inform them of the attitudes held by Iowa doctors. If they can show a tabulation that represents just a sampling of opinion, they will run the danger of creating the impression that most of us don't care what the government does. But if the number of doctors whose opinions are summarized can be increased to no



fewer than half of the profession in Iowa, our Society will impress our elected representatives as a political force to be reckoned with.

It is not yet too late for you to send in your questionnaire. In case the first one seems to have found its way into your round file, a postcard addressed to your state office will get you another.

### NORTH CENTRAL MEDICAL CONFERENCE

The annual meeting of the North Central Medical Conference was held in St. Paul, Minnesota, on Sunday, November 1. The participants were members from North and South Dakota, Minnesota, Nebraska, Wisconsin and Iowa. Dr. H. Russell Brown of Watertown, South Dakota, president, in giving a brief history of the Conference, stated that it had concerned itself with three subjects,—the socioeconomic needs of the country, those of the American Medical Association, and those of the county medical societies. The Council on Medical Service of the AMA is an outgrowth of a resolution from the Conference that such a Council be established. Programs of the Conference have always dealt first with the welfare of the people of our country, and with the welfare of the physician, only secondarily.

#### OSTEOPATHY

The program this year consisted of four panel discussions. The first, on osteopathy, was started by Dr. Victor Johnson of Rochester, formerly of the Council on Medical Education and Hospitals of the AMA. Dr. Johnson outlined the past AMA and Council attitude toward osteopathic practice, and then presented the essential facts of the Cline report. In the Cline report, it was recommended that doctors of medicine be allowed to teach in osteopathic schools so as to raise the level of instruction, the consensus being that so little of the original concept of osteopathy remains in the curricula of osteopathic schools today that the present practice of osteopathy does not constitute cultist healing. The Cline report felt that in the interests of public health, medical education in osteopathic schools should be improved, and that component state medical associations should accept responsibility for working toward the gradual assimilation of osteopathy. The final vote of the AMA House of Delegates was in favor of laying the whole matter over a year for further study.

Dr. Johnson reviewed the facts that osteopathic schools have practically the same standards for admission and the same curriculum as medical schools, and that osteopaths are licensed to practice much the same as doctors of medicine in 35 states. But he indicated that, in his opinion, some doubt remains that osteopathy, as it is practiced, is essentially identical with the practice of medicine.

If osteopaths are to be admitted to practice on

the same basis as doctors of medicine, it will be necessary to evaluate the schools, and this will be done by the Council on Medical Education and Hospitals on the same basis as for medical schools.

Dr. H. Kent Tenney, of Madison, told of the Wisconsin situation where some 116 osteopaths are licensed. In 1949, legislation was passed giving osteopaths equality of licensure, with certain regulations. There were 144 osteopaths in the state at that time, and 100 of them took the required course in materia medica, passed the examination, and were given their license. Since then 16 more have done the same.

Dr. Tenney said the situation does not have full approval of the entire membership of the Wisconsin State Medical Society, and that more guidance is needed at the local level. The Board of Medical Examiners is alert to the problem and working on it.

Dr. Ellison F. Kalda of Platte, South Dakota, told of his experience in being the only doctor of medicine in a town of 1,200 persons, with a new hospital, where one osteopath also practices. At first no problem arose, but in the past two or three years, as emergencies have arisen, it has seemed necessary for the doctor of medicine and the osteopath to work together in the patient's interest.

Mr. Merrill Smith, of Nebraska, raised the question of whether osteopaths really want the program. Have they asked for it? Have they discontinued the practice of osteopathy? Are they willing to lose their identity? Is there a basis of common ground where they could meet with doctors of medicine? Who would benefit most from the acceptance of osteopaths by the medical profession? He also mentioned that the principles of medical ethics would have to be changed, together with the codes of many states, and these innovations should not be undertaken lightly.

#### MALPRACTICE INSURANCE

The second subject discussed was that of malpractice insurance. Mr. Howard Brower, assistant secretary of the Council on Medical Service, gave a synopsis of the history of malpractice insurance, saying that for a long time it was not sold in large enough volume to be rated. Now, however, with more claims being filed, it is being rated, and upon the experience established by the issuing companies, premiums commensurate to the risk are being charged. That is why the cost has risen. Mr. Brower cited figures for New York. In 1943, there was one suit or claim to each 71.4 members, in 1950 one to each 46.9 members, and in 1952 one to each 28.7 members. The increased size of awards is also a factor. In New York the award increased 149 per cent in ten years, and in other areas 89 per cent.

The primary causes for suits are very diverse, and the secondary causes are usually the precipitating factor. Again in New York, 37 per cent were filed by claims-minded patients, 23 per cent be-

cause the doctor had sued the patient, 20 per cent because of callous or indifferent treatment, 14 per cent because of unnecessary criticism by another doctor, and only six per cent because of high fees. Professional witnesses for the plaintiff used to be hard to get, but now there are doctors of medicine who cultivate the art of courtroom performance.

Mr. Brower said the National Association of Complainant's Compensation Attorneys (NACCA) is a complicating factor. He mentioned that most physicians urge the insurance companies to settle out of court, that insurance must be written on an individual basis, that the amount of liability must be low, but still high enough to safeguard the individual's estate. He said many malpractice suits are filed several years after the cause for filing, and it is difficult to know how much reserve is needed for such late filing.

Dr. A. E. Ritt of St. Paul followed, reiterating many of Mr. Brower's statements. Some states have a law of joint liability which is some protection, but many do not. A clever, emotional attorney can play upon a jury. The plaintiff has a better than even chance to get a judgment, and the amounts are increasing. The contingent fee schedule also means higher claims. Dr. Ritt then gave specific figures of various insurance companies.

Dr. R. G. Mayer of Aberdeen, South Dakota, was the final speaker on the panel, giving figures for various states and stressing the importance of the problem.

During the dinner hour the group voted in favor of a resolution supporting the Bricker resolution, and one on cooperation on Indian affairs; it elected Dr. H. E. Kasten of Beloit, Wisconsin, as president; Dr. George Earl, of St. Paul, as president-elect, and Mr. R. R. Rosell, of St. Paul, as secretary-treasurer. It also heard reports from two AMA trustees, Dr. Gunnar Gundersen, of La Crosse, and Dr. L. W. Larson, of Bismarck.

#### PHYSICIAN PLACEMENT

The first talk of the afternoon dealt with physician placement. Dr. Cleon Nafe of Indianapolis said the need for the service arose during the war when communities lost their doctors, and was intensified when doctors returned from service and were looking for a place to locate. The AMA placement service cooperates with the state societies, nearly all of which have some sort of placement program. A list of openings must be maintained; these openings must be studied and appraised; a list of doctors seeking locations must be kept; the AMA must be supplied with both lists; the cooperation of medical schools and hospitals should be sought; and the service should assist the communities in attracting physicians. Records must be kept up-to-date and complete at all times. The AMA has prepared a film, "A Citizen Participates," which is available for state and county medical societies. Dr. Nafe mentioned that 75 per

cent of the openings for doctors are in communities of 2,000 or less population.

Dr. Willard Wright, of Williston, North Dakota, said the placement service of the medical societies must show the people what they can do for themselves, and help them do it. Often a fuller knowledge of health resources available will lead to their utilization and to a better health service. The placement service can be of service both to the people and the doctors. The State Society should have sufficient personnel to meet with the communities, make a thorough investigation, supply advice, and continue to keep in touch with the situation. In North Dakota it has seemed that a community that can support one doctor can probably support two just as well.

Mr. Earl Thayer, of Wisconsin, said it was necessary in some instances to educate a community to get medical care from a center. He felt mobile medical units might be a good thing. Communities should recognize that there is increasing competition for physicians. They must give more information about their area. He felt there was tremendously poor follow-up by some state medical societies, and that closer liaison was essential. The physician's wife plays a large part in determining where he will locate.

#### VETERANS' MEDICAL CARE

The final panel of the afternoon dealt with veterans' medical care. Dr. J. D. McCarthy, of Omaha, member of the AMA Council on Medical Service, stated the AMA's position on the problem as taken in June, giving the history of the problem as a prelude. Veterans' medical care is not a new thing, but there is increasing concern over the number of non-service-connected cases now cared for in Veterans' hospitals. The AMA recognizes the fact that neuropsychiatric and tuberculous patients should receive hospitalization, whether service-connected or not, but it wants non-service-connected cases eliminated as much as possible. The resolution concerning this asked the state societies to do what they could toward this end at a local level.

Dr. Fred Sternagel, of West Des Moines, felt the medical profession might engender much adverse criticism if it went "all-out" for elimination of non-service-connected cases, since it would stand to benefit financially in some instances. He expressed the belief that there are many physicians who are glad to send chronic patients to VA Hospitals and not have to take care of them. He wondered if "chiseling" was as widespread as some claim it to be, and whether stricter adherence to the P-10 form might not help. He urged that precipitate action be avoided, and full consideration given to the many factors of the problem.

Dr. Ralph Creighton, of Minneapolis, presented the final talk, much in the same vein as Dr. Sternagel's. And so ended another meeting of the North Central Medical Conference, a gathering that is always characterized by readiness to face



the facts and try to work for a happy solution of them.

## RESULTS OF LEGISLATIVE QUESTIONNAIRE

The Legislative Committee was very pleased with the response by the doctors of Iowa to its questionnaire. It represented an attempt to find out your desires and, of course, we wished more could have taken the time to reply.

Approximately 814 busy Iowa doctors did take the time to study this questionnaire and give the Legislative Committee the benefit of their thinking. Their response is sincerely appreciated.

The results are as follows:

*Question No. 1:* This question dealt with the AMA's position on VA Hospitals for non-service-connected disabilities. The AMA has opposed the VA Program on non-service-connected disabilities.

716 (89 percent) favored the AMA's position

89 (11 percent) opposed the AMA's position

*Question No. 2:* This question dealt with the Reed-Keogh-Jenkins Bills allowing physicians and other professional men to set aside funds for retirement, exempt from taxation until retirement.

754 (95 percent) of the physicians favored this plan

41 (5 percent) were against it

The second question also dealt with the extension of Social Security coverage to physicians.

684 (85 percent) of the physicians were opposed to this extension of Social Security to cover physicians

103 (15 percent) were in favor of extending Social Security to cover physicians

*Question No. 3:* This question dealt with the Bricker Resolution preventing legislation through treaties, by requiring that International Labor Organization actions and United Nations actions be approved by both Houses of Congress the same as any other legislation.

701 (89.5 percent) of the doctors favored the Bricker Resolution

84 (10.5 percent) were against it

*Question No. 4:* This question dealt with allowing the deduction of all medical expenses under Federal Income Tax laws rather than the present ruling which allows deducting the excess over 5 percent of adjusted gross income.

644 (83.5 percent) of the physicians favored a more liberal deduction for medical expenses

128 (16.5 percent) of the physicians were opposed to any change in the present law

*Question No. 5:* The position of the Legislative Committee on activities of the Public Health Department or Public Health Units has been that there must be a clear-cut definition of Public Health and basic public health services before the committee would support any legislation expanding the activities of Public Health Departments or Public Health Units at either state or national level.

773 (98.8 percent) of the physicians endorsed this position

10 (1.2 percent) were against it

*Question No. 6:* This question deals with Federal Aid to medical education.

697 (89.4 percent) of the physicians are opposed to Federal Aid to medical education

84 (10.6 percent) are in favor of it

*Question No. 7:* This question dealt with Federal Aid to prepaid health plans.

764 (97.5 percent) of the physicians are opposed to Federal Aid of any kind for prepaid health plans

19 (2.5 percent) are in favor of it

*Question No. 8:* This question dealt with income tax deductions for the educational expenses of physicians where they return for postgraduate work or special courses.

759 (95.1 percent) of the physicians believe they should be allowed to deduct postgraduate educational expenses

39 (5 percent) were opposed to such a plan

*Question No. 9:* This question dealt with different subjects. The sections that received the most comment were in regard to the osteopathic and chiropractic controversies. There was also indication that many thought there should be a single licensing board with the osteopaths taking the same examination as the M.D.'s.

*Question No. 10:* This question asked for suggestions on state legislation. There were requests for revision of the Coroner's Law, study of the State Narcotic Law and study of the payment plans for physicians under the State Welfare Program.

There were also comments opposing the building of more VA Hospitals; that the Public Health Service should be controlled solely at the local level; about the drunken driver, and toll roads. Some expressed a desire for close cooperation between the University Medical School and the Medical Society, and also between the State Department of Health and the Medical Society.

There was also comment favoring economy in government and the application of business principles in running it. Some doctors commented that non-service-connected disability of an indigent veteran should be handled as a local responsibility, where adequate care is always given the indigent.

In the negative votes and also in the comments were many other fine suggestions taking a different attitude than some of the comments from affirmative votes. There was comment both for and against McCarthyism, but with general agreement, however, that it has awakened the country to the almost traitorous neglect in stamping out communism.

Again, may we state that the Legislative Committee welcomes your writing to the State Society's office and calling its attention to matters of interest to you.

## *General Manager's Page*

THE PRECEPTORSHIP PROGRAM IS A MUST!  
BECAUSE—

It is a State Society program—

A very high percentage of 1953 preceptors are enthusiastic in its praise—

The students are well satisfied and wish us to continue the program—

The Medical School feels that it has been a success—

PRECEPTORSHIP NEEDS AND DESERVES YOUR  
PARTICIPATION.

Approximately 80 percent of recent graduates seeking locations in Iowa request salaried associations with established physicians or clinics, for they feel they have had insufficient contact with the actual practice of medicine. (The Preceptorship Program can do much to solve that problem.)

IT IS NOT TOO LATE FOR YOU TO REQUEST A STUDENT FOR NEXT SUMMER. Your doing so will provide a young man the period of training he needs, and will give you a most worthwhile experience. Besides, you will be helping to insure Iowa's having another physician.

*R. D. Bernard, M.D.*

*General Manager*

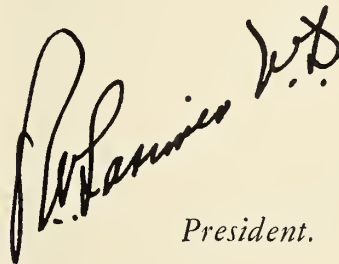


## *President's Page*

Among the topics discussed at the recent meeting of the North Central Conference was the topic of Medical Liability Insurance. The impression conveyed to the conferees was that medical insurance rates are increasing even faster than automobile insurance liability rates. We in Iowa and Nebraska pay about one-third as much as do physicians in New York, Washington and California and about one-half as much as do the doctors in the Dakotas—surgeons in South Dakota pay almost two and one-half times as much as we do for the same coverage. Our happy position must reflect the quality of medicine in Iowa, the good relations which must exist among Iowa doctors and the friendly feeling that the public has toward us. These are concrete evidence that our public relation efforts have been worth while.

Iowa doctors, however, cannot feel secure in their position, but must constantly make efforts to maintain it. We and our assistants should reconsider the suggestions which the Grievance Committee have made in the past. Frequent consultations in difficult cases, and a charitable attitude toward other physicians are important in solving the problem. As last month, we advise that you read the A.M.A. Public Relations Handbook.

With the approaching Holiday season, the Officers and office staff of the State Medical Society wish every member of our Society a Merry Christmas and a Happy New Year. All of us thank you for your interest and help during 1953. We hope we can continue to merit the same efforts in 1954.

A handwritten signature in dark ink, appearing to read "R. W. Hammer", with a stylized flourish to the right.

*President.*



*To All Our Doctor Friends:*

*Heralded by the happy holiday season, the end of another year of service to our communities is approaching.*

*1953 has been another year of progress. Enrollment has grown and retention of members has been high, and a great part of this advance has been due to your loyal support and endorsement of the Plans. Undoubtedly, your cooperation has helped many Iowans to have a merrier Christmas and happier prospects for the new year because your recommendations of the Plans have helped them to better health, and freedom from financial worry.*

*We want to thank you sincerely for the many contributions you have made to the continuing success of Blue Cross-Blue Shield, and we want to extend every good wish for 1954.*

*A very Merry Christmas and a Happy New Year.*

*Cordially,*

*Executive Director  
Hospital Service, Inc.*

*Executive Director  
Iowa Medical Service*

*Executive Secretary  
Associated Hospitals Service, Inc.*



# THE JOURNAL BOOK SHELF

## BOOKS RECEIVED

- CURE YOUR NERVES YOURSELF, by *Louis E. Bisch, M.D.* (New York, Wilfred Funk, 1953. \$3.50).  
YEARBOOK OF OBSTETRICS & GYNECOLOGY, ed. by *J. P. Greenhill, M.D.* (Chicago, The Year Book Publishers, 1953. \$6.00).  
PEPTIC ULCER, by *Lucien A. Smith, M.D., and Andrew B. Rivers, M.D.* (New York, Appleton-Century-Crofts, 1953. \$12.50).  
PEDIATRIC GYNECOLOGY, by *Goodrich C. Schauffler, M.D.*, 3rd Edition (Chicago, The Year Book Publishers, 1953. \$7.50).  
YEARBOOK OF GENERAL SURGERY (1953-54 Year Book Series), ed. by *Evaris A. Graham, M.D.* (Chicago, The Year Book Publishers, 1953. \$6.00).  
PERIPHERAL NERVE INJURIES, by *Webb Haymaker, M.D., and Barnes Woodhall, M.D.*, Second Series (Philadelphia, Saunders, 1953. \$7.00).  
AN ATLAS OF PELVIC OPERATIONS, by *Langdon Parsons, M.D., and Howard Ulfelder, M.D.*, illustrated by *Mildred B. Coddling, M.A.* (Philadelphia, Saunders, 1953. \$18.00).  
THE YEARBOOK OF PEDIATRICS, by *Sydney S. Gellis, M.D.* (Chicago, The Year Book Publishers, 1953. \$6.00).

## BOOK REVIEWS

- ADVANCES IN PEDIATRICS, ed. by *S. Z. Levine, M.D., et al.*, Vol. VI, (Chicago, The Year Book Publishers, 1953. \$7.50).

This is the sixth annual volume of this publication, presenting reviews of pertinent subjects in the field of pediatrics. The present number consists of seven monographs covering subjects of contemporary interest, some of a controversial nature. Each monograph is an authoritative appraisal of a special pediatric problem. To obtain a comparable knowledge of these subjects would necessitate study of innumerable journals.

Pulmonary pathology in the newborn by *Edith L. Potter* is a splendid consideration of the subject. Atelectasis is not a disease but simply a symptom. Hyaline membrane is discussed in detail. Megaloblastic anemia of infancy, by *Zuelzer*, hemolytic disease of the newborn, by *Levine*, and the lipoidoses, by *Van Creveld*, are excellent reviews of these subjects.

This volume is a valuable addition to the armamentarium of the physician who is interested in keeping up to date in pediatrics.—*Dennis H. Kelly, M.D.*

- LIVING WITH A DISABILITY, by *Howard A. Rusk, M.D., and Eugene J. Taylor*, in collaboration with *Muriel Zimmerman, O.T.R., and Julia Judson, M.S.* (New York, The Blakiston Company, 1953. \$3.50.)

The author's name has become practically synonymous with the concepts of rehabilitation for all sorts of disabilities. Here, in a volume replete with excellent illustrations, are presented the methods Dr. Rusk has found to be feasible in teaching the disabled how to enjoy freedom at home, at work and at play. Any physician who is interested in helping the disabled will find this volume indispensable for ready reference. The illustrations alone demonstrate to anyone suffering from a handicap that, with the proper approach, many of the problems of daily living can be met quite simply.

*E. M. George, M.D.*

- MAY'S MANUAL OF DISEASES OF THE EYE, FOR STUDENTS AND GENERAL PRACTITIONERS, 21st. edition, revised and edited by *Charles A. Perera, M.D.* (Baltimore, The Williams & Wilkins Company, 1953. \$6.00.)

Designed primarily for the medical student and general practitioner, this book is a favorite, time-tested reference, generally accepted as the best in its field. The current volume is streamlined and no larger than its predecessors, in spite of the numerous changes that have been required by the necessity of including the many advances which have been made in ophthalmology. Twenty-five new illustrations are to be found in this edition. The physician will find the book most valuable.

*E. M. George, M.D.*

- MANUAL OF MEDICAL EMERGENCIES, by *Stuart C. Cullen, M.D., and E. G. Gross, M.D.*, Second Edition, (Chicago, The Year Book Publishers, 1953. \$4.50).

In this 278 page handbook are short descriptions of therapy of medical emergencies such as circulatory difficulty, poisoning, drug reaction, allergic reaction, central nervous stimulation, coma, and miscellaneous other acute situations. The purpose of the book is to help the general practitioner or interne to do the right thing, *now*. After the patient is over the emergency, larger textbooks may be consulted for broader coverage. Accordingly, discussions in this book are brief and to the point. The suggestions given are sound. One suggestion, that a needle be inserted into a vein with the bevel *down*, is contrary to the instructions in other textbooks, but perhaps we should try it and see. The handbook should be excellent for general practitioners, internes and nurses.—*D. A. Glomset, M.D.*

- MODERN CONCEPTS IN MEDICINE, by *Julius Jensen, Ph.D.*, MRLS, LRCP, (St. Louis, C. V. Mosby Co., 1953. \$11.50).

The author of this book is struggling to develop a more profound concept of disease than is found in the usual textbooks. His idea is excellent. We are on the threshold of a new era as regards conception of disease, having stepped upward on risers of previous eras of "disease description," "the era of bacteriologic enthusiasm," and "statistical analysis." Now we must discover the fundamental causes of disease. We must study cellular and biochemical metabolism.

The author writes an excellent introduction, describing the path medical thinking has taken through the ages. He describes "The Essential Processes of Adaptation," lists the "Structural Facilities in Support of Adaptive Processes," and then discusses "Cybernetics" (the relation of medicine to the other sciences). He is at his best when discussing theory and at his weakest when relating theory to disease process. (Aren't we all?) We know so little about the essentials of disease that there isn't much to write.

This book, therefore, is pointed to the philosopher in medicine and may help him dream of the future.—*D. A. Glomset, M.D.*

---

# Iowa Academy of General Practice

*President*—Paul F. Chesnut, M.D., Winterset

*President-Elect*—Frank D. McCarthy, M.D., Sioux City

*Vice-President*—Dean C. Snyder, M.D., DeWitt

*Secretary-Treasurer*—William M. Sproul, M.D., 912 Equitable Bldg., Des Moines

*Executive Secretary*—Mrs. Elizabeth Nelson, 3600 Franklin, Des Moines

---

## POSTGRADUATE MEETING

Hotel Savery

Des Moines, Iowa

Thursday, January 21, 1954

*Watch for the program in the January JOURNAL*

## SIMPLIFIED STUDY REPORTS

The manner in which we have had to report our postgraduate work has always been belated and involved. After the year was over, the blanks were sent to all members from the American Academy office, and then there was a scramble to remember what had been done. This caused more or less of a hardship on everyone.

Beginning with January, 1954, a new method will be employed which should make our annual totaling cumulative and much easier. When annual dues are paid to the American Academy office in Kansas City, instead of the old type of membership card, the doctor will receive a double card which folds once to the size of the previous one. On the face will be the usual evidence of membership. The other three sides of the card will contain spaces in which he is asked to enter his postgraduate activities as he completes them. We hope to obtain the cooperation of the accredited meetings to give members a reminder announcement and some time in which to make these entries during the meetings. At the end of the year, the totals can be entered and the card mailed to the office of the American Academy of General Practice in Kansas City. There, the data can be transferred to the doctor's file and the card sent to the State Chapter office, where it will be kept for ready reference. This will simplify processing in Kansas City, reduce filing space there, and deposit each man's record so that his State Office will know where he stands and can thus answer his questions intelligently without having to correspond with the national office.

Any information concerning study hours not shown on the card can be conveyed to the Academy office by an accompanying letter. A letter would be necessary in cases where more meetings were attended than there is room for on the card, or in situations where the type of credit to be taken for any certain postgraduate activity is in doubt.

Each member will have to fill out a study report as usual for the postgraduate work done in 1953.

This should be welcome news to present members and a talking point to prospective members. We think that a large majority of general practitioners do enough postgraduate work that membership should be no problem from that standpoint, but they may fear the paper work of reporting it. The new system keeps paper work at an almost irreducible minimum.

---

## PRECEPTORS

One hundred sixteen medical students spent a month last summer with general practitioners throughout our state in preceptorship training. This being the first time such a program has been attempted, it would be unreasonable to suppose that the experience was universally satisfactory to all parties involved. It is also outside reason to think that it was unsatisfactory to the majority of doctors and students involved, since so many have spoken in praise of the scheme. Perhaps one of the reasons it proved unsatisfactory to a few is that the purpose of the preceptorship was not completely understood.

The preceptorship is primarily a training period for the student. This does not mean so much that the young man or woman should have a galaxy of baffling cases shown him as that he should learn the general run of the cases which a general practitioner sees. He will be more interested in those because he has less chance to see them in Iowa City. This adds to his confidence. No general practice can go long without an interesting mixture of difficult diagnostic and therapeutic problems. These give the student an opportunity to see how the practicing doctor approaches the case as a humanitarian in dealing with the psychology peculiar to all illness. This stimulates conviction as to the reality of this phase of medical practice. These factors, together with demonstration of how an office staff functions, how one handles what some doctors unthinkingly refer to as the "plague" of phone calls (but which are the very essence of modern medical practice), how case records are kept, how charges are determined and collections are made, and last, but not least, how the doctor



lives outside his professional hours, provide the young doctor a valuable look into his future. It is hard to believe that there is a single general practitioner in Iowa, or anywhere, who is not equipped adequately to provide these items to any neophyte in our beloved profession.

The returns to the doctor are legion, as the majority of men who have participated can honestly state. The association with the youth and vigor of a medical student is indeed a rewarding experience. The opportunity to have a share in the training of tomorrow's physicians should be inducement enough to make every sincere doctor clamor for a chance for such service. The financial outlay is a minor item.

Theodore Roosevelt once made a famous statement to the effect that every man in business or profession owes to that business or profession something of himself outside of that which brings him monetary gain. This we believe. This is reason enough that we should all volunteer our services for this pleasant duty to our profession.

Of course, not every medical student is going ultimately to enter general practice. General practice is hard work, but we *know* its advantages. There are those who do not want to work that hard, but success is built only on hard work in whatever pursuit one adopts, and such students should be made to see what success in general practice means. Some students will go into specialty fields, but they too should have an opportunity to see the importance of general practice in the over-all field of the economics and organization of medicine.

Doctor—be a preceptor! Try it next summer. It is a good bet that you will be pleasantly surprised. Send your name to the office of the Iowa Academy of General Practice or to the office of the Iowa State Medical Society. **DO IT TODAY.**

---

#### BAUSCH & LOMB OFFERS FILM ON MICROSCOPE USE

Bausch & Lomb Optical Co., of Rochester, New York, offers to lend, free of charge, a new 20-minute color-and-sound motion picture that demonstrates the construction, basic principles, correct operation and care of a modern laboratory microscope. Reference manuals for student viewers are offered with the film.

Though it is intended principally for use in instructing medical-school students, the picture and the manuals can be utilized as part of the in-service training of hospital and laboratory personnel.

#### THE PRECEPTORSHIP: A CRITICAL ASSESSMENT OF ITS VALUE IN MEDICAL TRAINING\*

Billy D. Howell, M4

State University of Iowa

Teaching by preceptor is a time-tried and proven method of instruction. From the beginning, men have learned by watching their experienced preceptors perform their special skills, and by attempting to copy those skills under the guidance of the expert. Prior to the printing press, the apprenticeship was commonly the major step toward the learning of an art, and even since that time wise teachers have realized the necessity of a balance between the textbook, the skilled demonstration, and a guided performance of the art.

The didactic area of the field of medicine is no stranger to the method of the preceptor. From earliest times, the science and art of medicine have been an acquired heritage passed down from father to son. Hippocrates came from a family of physicians. Galen mentioned eight men as his preceptors. Vesalius came from a long line of physicians. John Hunter was apprenticed to the leading surgeons of his day. The early physicians of this country, including those of our own state, drew heavily on their association with their preceptors as well as from the use of their books. History testifies clearly to the fact that behind every leader in the field of medicine is his preceptor or preceptors, forming an indispensable part in the structure of his success.

It would seem that within the past 75 years, under the pressure of the expanding body of medical knowledge, the pendulum of medical education has been forced somewhat to the right, and we find the medical student buried in his books and lectures, at some expense to his "bed-side education." Without doubt, this added classroom time is necessary, for if the people are to profit from scientific advances, those who practice medicine must be familiar with new developments. However, the balance between the classroom and the bedside education must be maintained.

One wonders if undue opportunity has not been offered to and taken by the medical charlatan, while the beginning practitioner loaded with new scientific advances flounders in the early days of his practice learning the art of medicine. For the science of medicine differs in an important way from most other sciences in that it is dealing with people as its subject. Not only must the successful practitioner know the facts of medical science, he must know people. To apply the facts of medical science to people successfully is the art of medicine. The essence of the value of the preceptor—

---

\* First prize essay in a contest conducted by the Iowa Academy of General Practice. Mr. Howell's home is in Cumberland, Iowa.

ship to the medical student is in seeing the facts of medical science applied to people.

In a breakdown of the assessment of the value of the preceptorship in medical training, the following are items of major importance and will be discussed individually.

(1) An opportunity to see the general practitioner evaluate and treat his patients.

(2) An opportunity to see the types of clinical problems that are common in a general practice.

(3) An opportunity to see the organization of a general practice.

(4) An opportunity to see the life of the general practitioner and to evaluate his role in the community.

(5) Other items of value.

The preceptorship offers the preceptee an opportunity to see a general practitioner evaluate and treat his patients. Of necessity, the general practitioner is limited, to a certain extent, to the more basic diagnostic and therapeutic aids. He is limited to a degree by the fact that he is not an expert in any particular field. He is often limited by the economic circumstances of his patients. Thus the general practitioner must do the very best that he can within limitations. To the medical student these limitations are something new. His lectures are given by specialists. He is trained in the most completely equipped institution in the area. Since the patients with whom he deals are mostly financed by the state, expense to the patient is not a problem of major concern. The preceptee sees his preceptor handle his patients in most cases as adequately as any specialist in any institution could do. He sees his preceptor improvise to stay within the mentioned limitations without jeopardizing the welfare of his patients. He sees his preceptor recognize his limitations and refer his patients to the specialists when the occasion demands such action. This is a unique phase of the preceptorship, and the value of seeing these principles put into practice is self-evident.

Other worthwhile aspects of observing the general practitioner evaluate and treat his patients include seeing him base his judgments on his knowledge of the individual. Because of the nature of his work, the general practitioner has often been in association with his patients over a period of many years. If there is any doctor who has the opportunity to know his patients, it is the general practitioner. Consequently, he is often able to make a quick evaluation of his patient's complaints—complaints which might well serve to confuse another doctor. This should help to impress on the student the value of knowing his patients.

Another valuable aspect of this observation lies in the fact that the general practitioner must treat the whole patient. He must live among his patients, and he can't lightly dismiss their complaints simply because the illnesses of which

there are symptoms do not lie within his particular field of interest. He must be concerned about the overlapping realms of the mental and spiritual, as well as the physical, if he is to achieve his goal—the realization of health in the individual. Though this goal is probably never fully attained, the preceptee will seldom find a place where the concept of the whole person is so stressed as in his preceptorship.

The preceptorship offers the preceptee an opportunity to observe the types of clinical problems commonly seen in a general practice. The problem of the bedside education of the medical student is partially answered by the clinical material found in the teaching institution. However, particularly for the student looking forward to a general practice, the cases who will represent the major portion of his practice are not found in the teaching institution nor are they to be found in any hospital, but only in the office of the general practitioner and in the homes of his patients. Here one finds the multitude of minutiae never seen inside a hospital but nevertheless of real consequence to the patient. These details may serve to bewilder the new general practitioner unless he has seen a more experienced doctor handle them with a combination of basic principles and common sense. Here are seen the minor surgical cases and the common childhood infections; the routine prenatal exams and the well baby checks; the pneumonias and the middle-ear infections. These and many others as well as the chronic conditions and the diagnostic problems (with which the student already has a speaking acquaintance) are the cases which broaden the clinical experience of the medical student and expose him to a group of problems about which he may have read much but with which he has had little contact. However, the main value to the preceptee of his exposure to this array of clinical and subclinical pathology is not in seeing the specific cases, but is in seeing the preceptor handle this varied group by the application of the basic principles of medicine plus common sense.

The preceptorship offers the preceptee an opportunity to see the organization of the general practice. An efficient, smooth-running organization is important in order to enable the doctor to give the best possible service to his patients. The problems of office equipment, of stocking medicines, of medical records, of appointments, of fees, of financial records, of nursing, and of office help must be efficiently solved by the general practitioner. There is no better place for the student to gain some insight into these matters than in the office of his preceptor. Most of the preceptees will eventually be called upon to meet these problems of the business of medicine, and there is little in the medical curriculum designed to acquaint the student with them. The preceptorship offers an exposure to these problems and to one man's answer to them.



The preceptorship offers the preceptee an opportunity to see the life of the general practitioner and to evaluate his role in the community. This is valuable to the student, for more often than not he is unsure of his goal in medicine and has little concrete experience on which to base his decisions. He knows something of the role played by the doctors in the teaching institution, but he knows relatively little about those physicians who are not associated with the University Hospitals. The preceptorship experience allows him to see something of the life of the general practitioner. Here he sees the doctor's relationship with his patients and with other practicing physicians in the area. He sees the doctor, apart from his professional activities, as a member of the community. He learns something of the home life of the general practitioner. From these experiences the student is much more qualified to make a decision as to his own future in medicine. A preceptorship with a general practitioner seems especially appropriate at this time, for the experience should go far to put away any feelings of inadequacy toward a general practice or any misunderstanding concerning the benefits of such work for the doctor.

Other items of value to the preceptee from the preceptorship should be mentioned. The opportunity for such individualized instruction is not offered elsewhere. The chance to follow acute diseases for a thirty day period is not often presented in the teaching institution. The opportunity to see different forms of treatment is sometimes presented during the preceptorship. An introduction to the many commercial drug preparations and their dosages is offered. The house call is a new experience to the preceptee. These, and perhaps many less evident items are the reasons why the preceptorship is of real potential value in medical education.

To this point this essay has listed and discussed the potential and practical value of the preceptorship in medical education. These are the things of value which every preceptee should take with him from the preceptorship experience. What are some of the factors which may reduce the value of the preceptorship?

The disadvantages of the preceptorship are only potential. Probably the two most important variables are the preceptor and the preceptee. Because of the nature of the preceptorship program, the preceptor is called upon to give of his time and interest and money without much immediate return for his efforts other than the gratitude of the preceptee. If the preceptee must spend a great deal of his time running routine blood and urine examinations, he will probably not profit a great deal from his preceptorship. The general practitioner is in the position of having to make a gift of his time, and he must be prepared to make the necessary sacrifice. This may be too much to ask of the practitioner who is just starting out.

Perhaps it would be wise that the preceptors be selected from among the more established physicians. Obviously a preceptor who is not strictly honest or who does not practice medicine in accord with the highest ethical code would be a detriment to the student of medicine. On the other hand, the preceptee is dangerous to the success of the preceptorship only if he is ignorant of the potential value to him of such a program.

An aspect which might be considered a potential disadvantage to the preceptorship is the possibility that on occasion the preceptee may see his preceptor use certain types of treatment which are considered less than ideal at the teaching institution. This need not frustrate the student, but should serve to introduce him to the fact of the differences of opinion regarding the management of certain conditions.

A problem that some students must face is how to provide for their wives and children during the preceptorship. Students who depend on their summer earnings to finance their school expenses have an especially acute financial problem. The liberal loan plan recently established for medical students by the Iowa State Medical Society should nearly eliminate this problem which lessened the enthusiasm of these students when they first learned of the required preceptorship.

Another factor pertinent to the value of the preceptorship is the amount of time spent in this activity. It is apparent that the worth of any educational program which lasts only thirty days is of necessity limited. A one-month period is a small part of an educational program designed to cover 36 school months. Obviously, the one-month preceptorship is not an indispensable part of medical education. Former graduates could quite successfully contradict a claim to the effect that it is. However, for the investment of a relatively short period of time, it offers a liberal return to the medical student. There are very few thirty-day periods in the four year program that offer more. Because of the nature of the preceptorship and the necessary limitations of the student participation, the one-month period seems ideal.

The feature of the compulsory aspect of the preceptorship might briefly be considered. In view of the potential value of the period as already discussed, it would seem advisable to include the preceptorship in the regular medical-school curriculum. A few students may protest that they have already worked with a doctor sometime previously and that such an experience would be a rather unfruitful experience for them. However a thirty-day period with a different doctor should prove to be well worth their time. Also the summer between the third and fourth years would seem to be the point in the student's training

*(Continued on page 531)*

# STATE DEPARTMENT OF HEALTH

*Edmund S. Zimmerman*  
COMMISSIONER

## INFECTIOUS HEPATITIS INCREASE CONTINUES

After a period of several years ending in 1950 during which infectious hepatitis was absent from Iowa or was at such a low incidence that no cases were reported to the State Department of Health, it reappeared in 1951, when 80 cases were reported from 10 counties. In 1952, 755 cases were reported from 37 counties. Through October 31 of this year 1,508 cases have been reported from 67 counties in all areas of the State.

The following table gives the reported incidence by year (1951, '52, and '53) for the 74 counties from which the reports have come.

TABLE I

County	1951	1952	1953*	County	1951	1952	1953*
Adair .....		1		Lee .....		1	
Allamakee .....			1	Linn .....		4	3
Appanoose .....		21	15	Louisa .....		2	10
Black Hawk .....			3	Lucas .....			15
Boone .....		2	6	Lyon .....			5
Bremer .....		1	1	Madison .....		1	23
Buena Vista .....			7	Mahaska .....			54
Calhoun .....	2		1	Marion .....		3	19
Cass .....			1	Marshall .....			6
Cedar .....		62	15	Mitchell .....			5
Cerro Gordo .....			41	Monona .....		35	10
Cherokee .....			1	Monroe .....			1
Clarke .....			5	Muscatine .....		54	47
Clinton .....		11	19	O'Brien .....			4
Crawford .....		34	2	Osceola .....			7
Dallas .....			7	Page .....	10	22	12
Decatur .....		1	1	Palo Alto .....			5
Des Moines .....	35	183	49	Plymouth .....		1	8
Dubuque .....			15	Pocahontas .....			18
Emmet .....			1	Polk .....	2	92	475
Fayette .....			2	Pottawattamie .....		22	189
Floyd .....			1	Poweshiek .....			6
Franklin .....			8	Ringgold .....			7
Fremont .....		16		Scott .....		87	67
Grundy .....			7	Story .....	1		6
Guthrie .....		7	3	Tama .....		2	4
Hamilton .....			4	Taylor .....		1	1
Hancock .....			15	Union .....			5
Hardin .....			8	Van Buren .....			30
Harrison .....		7		Wapello .....		17	85
Henry .....		2		Warren .....	2	7	83
Ida .....		4		Washington .....	17	3	3
Iowa .....	3	4	3	Webster .....			6
Jasper .....			13	Woodbury .....	4	55	
Kossuth .....	4		1	Worth .....			4
Johnson .....		2	9	Wright .....		1	
Keokuk .....			3				
Jefferson .....		1	1	TOTALS ..	80	755	1,508

\* Up to and including Oct. 31, 1953.

The monthly reported incidence in Iowa shows some semblance of seasonal effect. Each year since 1950 more cases have been reported during the winter and spring than during summer and early fall.

Why this disease, after many years of scattered appearance over most of the United States, has

TABLE II

## MONTHLY INCIDENCE INFECTIOUS HEPATITIS IN IOWA

Month	1951	1952	1953	Month	1951	1952	1953
January	6	79	106	August	0	16	108
February	0	180	139	Sept.	1	17	99
March	19	176	144	October	2	27	149 (Oct. 31)
April	2	46	202	Nov.	0	38	
May	9	40	315	Dec.	38	79	
June	3	30	134	Totals	80	755	1,508
July	0	27	112				

assumed a new pattern of attack is not known. The following summary of reports for Iowa for the period 1931 to 1945 is representative of the appearance of the infection prior to 1950.

TABLE III

Year	City or Town	County	Number of Cases
1931	Rural School Dist.	Des Moines	Few
1938	Everly	Clay	70
1939	Clarksville	Butler	31
1942	Zearing	Story	4
1944-1945	Tama-Toledo	Tama	Several Hundred
1945	Hedrick	Keokuk	4
1945	Oskaloosa	Mahaska	Few
1945		Clinton	Undetermined
1944-1945	Manning & Vicinity	Carroll	Over 100

The severity of infectious hepatitis and the age levels at which the attack is most likely to be disastrous are shown in the following Table 4.

TABLE IV

Deaths 1951	Deaths 1952	Deaths 1953
Age 28	Age 6	Age 12
Age 38	Age 18	Age 58
Age 66	Age 25	Age 67
Age 67 (2 deaths)	Age 34	Age 70
Age 72	Age 42	Age 78
Age 76	Age 47	
Age 83	Age 54	Total 5 (to June 30, 1953)
	Age 59	
Total 8	Age 62	
	Age 67	
	Age 70	
	Age 77	
	Age 79	
	Age 84	
	Age 85	
	Total 15	

The rate of recurrence is higher in the adult probably because he insists on returning to work before he has recovered from the illness.

Evidence points to a triple-threat method of spread of the infection. The first is indirect infection of the susceptible person from the intestinal tract of someone in the late stages of the incubation period. The second method is infection from



nose and throat discharges of the infected person. The third and less frequent, is from the blood of infected persons used for transfusions. Persons who have had known or suspected attacks of infectious hepatitis should not give blood for transfusions for several months following complete recovery. Control, then, must entail community sanitation, personal hygiene and education.

In addition to personal and community hygiene, we have an additional method of controlling the disease. Gamma globulin has proved very effective in prevention of cases in exposed persons. Contrary to some recent publicity, its use against infectious hepatitis is neither new nor on a trial basis. We have used it over a three-year period in Iowa. Our first use of it was to control an outbreak of infectious hepatitis in one of the residence halls at the Woodward State Hospital and School. Without its use over 20 per cent of family or close contacts develop as secondary cases. Its use reduces these secondary cases to the less than 1 per cent who contracted the disease between 1 and 3 days after the gamma globulin was given. These obviously represent incubatory cases to whom the gamma globulin was given too late.

The prophylactic dosage used in Iowa is 1 cc. per 25 pounds of body weight, with a minimum dosage of 1 cc. and a maximum of 5 cc. Since there is no age or sex difference in susceptibility, the gamma globulin is available for all close contacts regardless of age or sex. The supply, however, is not great enough for use on entire classrooms or schools in which a case has occurred.

Since our supply of gamma globulin for measles and infectious hepatitis is entirely dependent upon the numbers of cases reported, we must insist that physicians requesting this material report their cases.

### MORBIDITY REPORT

Disease	Oct. 1953	Sept. 1953	Oct. 1952	Most cases reported from these counties:
Diphtheria .....	0	2	2	.....
Scarlet Fever ...	38	8	23	Adams, Black Hawk, Polk
Typhoid Fever ...	2	3	6	Keokuk, Woodbury
Smallpox .....	0	0	0	.....
Measles .....	87	19	40	Appanoose, Dubuque
Whooping Cough	45	22	10	Grundy, Polk, Union
Brucellosis ....	24	24	42	Cerro Gordo, Dubuque, Mitchell, Warren 2 each; others scattered 1 to a county
Chickenpox ...	149	17	44	Boone, Des Moines, Dubuque
Meningococcus				
Meningitis ...	1	2	0	Linn
Mumps .....	104	51	11	Boone, Des Moines, Dubuque
Poliomyelitis ..	69	123	664	Clinton, Polk; 28 paralytic, 25 nonparalytic, 16 not specified
Rabies in Animals .....	14	5	11	Davis 2, others scattered 1 to a county
Infectious				
Hepatitis .....	149	99	27	Des Moines, Fremont, Polk, Van Buren
Tuberculosis ...	91	44	67	For the state
Gonorrhea ....	71	61	52	For the state
Syphilis .....	188	147	81	For the state

### A COUNTY PUBLIC HEALTH NURSE'S ANNUAL REPORT

People frequently wonder what the public health nurse does. We believe the 1952 annual report of the Harrison county public health nurse answers that question. It is a good summary of the year's activities and accomplishments of an Iowa public health nurse carrying a county program.

**Public health nursing is a community service in which a professional registered nurse, with special training, gives nursing care and instruction in the prevention of disease and the promotion of health in the homes, schools, clinics and industries of your community. Everyone is entitled to the services of the county public health nurse. Her service is not limited to any particular individuals or groups.**

Through immunization programs, x-rays and home visits, 10,000 individuals (comprising children and adults) were made aware of the Public Health Nursing Service available in Harrison county.

*Immunization programs*—During this year 1,750 children participated in immunization for smallpox, diphtheria, whooping cough and tetanus. Four thousand seven hundred seventy inoculations were given for typhoid fever during the period of the flood, April, 1952.

Ninety-four visits were made to 84 persons with some contagious disease. One smallpox case was reported. Two diphtheria, two typhoid fever, six infectious hepatitis, 52 poliomyelitis and many cases of scarlet fever, ringworm, measles, impetigo and chickenpox were also reported.

Plans for the coming year include encouraging all preschool as well as school children to be immunized by their family physicians.

*Venereal disease control*—Eight visits were made in behalf of this service. Visits are made to these patients to encourage them to continue treatment and to discuss with them the cause of the disease, mode of transmission and the effect on the general health.

*Tuberculosis control*—During the county-wide x-ray program sponsored by the Harrison County Tuberculosis and Health Association during the month of July, 9,280 miniature films were taken. Many previously unknown cases of tuberculosis, lung cancer and tumors have been found and diagnosed through this program.

Sixty-four large films were taken during the month of February at the regular yearly contact program, and 66 x-rays of rural school teachers also were taken at this time. One patient entered the sanatorium at Oakdale. Visits were made to 47 homes in the county in the interest of early detection of this disease. The tuberculosis case finding program is sponsored by the State Department of Health and the State and County Tuberculosis Association in cooperation with the County Medical Society.

*Maternity service.*—A maternal and child health class was enthusiastically received by the physicians and patients. There are six classes to a series. In the future these classes will be conducted in various sections of the county, so that the service will be available to all interested expectant mothers.

*Infant and preschool service.*—Twenty visits were made to 15 infants, and 28 visits were made to 19 preschool children.

Two preschool conferences were attended by 70 children, accompanied by their mothers. Preschool conferences are encouraged because several months' time is needed in which to work out problems children may have before entering school.

Services given infants and pre-schoolers center about care and feeding problems, the importance of protection against communicable diseases, normal nutrition and problems relating to formation of desirable habits.

*School hygiene.*—Twenty-seven schools were visited; 72 consultations were held with teachers concerning student problems. Inspections of children's health problems were made in 469 cases. Two pairs of glasses were secured through the nursing service. Forty-two visits were made to the homes of 35 children.

During the past year, the immunization program conducted through the schools was considered the primary school health problem. In the future, the school program will consist of regular visits to the schools and of supplementary home visits to discuss the problems of the students with their parents.

Visits to the schools include teacher conferences and attention to individual problems, as well as to the school environment as it pertains to the health of the pupil. The school environment includes seat size and arrangement, lighting, ventilation, water supply, drinking and washing facilities, sanitation of lunch rooms, heating, toilets, and sewage disposal.

*Crippled children's service.*—Twenty-two visits were made to 18 children for the purpose of securing medical attention for a suspected crippling condition or to assist with the home care of those under treatment.

The Crippled Children's Clinic held at Onawa was attended by 25 Harrison county children. This clinic included those afflicted with diabetic, cardiac, spastic, orthopedic and speech and hearing conditions requiring medical examination and supervision. It is necessary to be referred to this clinic by a family physician, and it is sponsored by the State Services for Crippled Children in cooperation with the County Medical Society.

In Harrison county this year, 52 cases of poliomyelitis were reported and visited. These cases will be visited at intervals over a three year period.

*Adult health service.*—Sixty-three visits were made to 37 individuals with non-communicable

health problems. These included cancer, cardiac, diabetic, orthopedic, geriatrics and mental hygiene problems. Continued medical supervision was urged at all times. Demonstrations of nursing care were given to a competent member of the family for the care of those ill in the home. Before a second visit may be made in the home by the Public Health Nurse the patient must be under the care of a physician.

*Administration and other activities.*—The nurse attended 51 meetings. These consisted of meetings of the Harrison County Medical Society, Nurses' Association, Health Council, Town Councils, Flood Committee, Cancer Society, Tuberculosis and Health Association and others.

Eleven days were spent attending the Institute of Chronic Diseases at Iowa City and the Polio Institute at Sioux City. The regular state meeting at Des Moines was also attended. The nurse gave talks at 21 public meetings on interpretation of her service and various health topics.

Interviews were held with 145 individuals to interpret the nursing service. Meetings were held with 101 interested persons to discuss health and social problems. On 96 occasions visits were made to physicians and dentists to seek advice and direction in solving problems in which they played a part.

Seventy-nine meetings were held with state and district officials regarding problems pertaining to public health and to the nursing service.

Many interviews were held with individuals to promote public health education through the medium of newspapers and radio.

A total of 249 home visits were made to 200 individuals to give health supervision.

The progress of the Public Health Nursing Service during this second year has been most gratifying, and was made possible only by the continued and increased interest and support of the people of Harrison county.

This report I respectfully submit to the Harrison County Board of Supervisors, Harrison county physicians and dentists, Harrison County Nurses' Association, the Health Council, school superintendents and teachers, civic and service organizations, religious groups and to the people of Harrison county.

MATILDA DECKER, R.N.  
Public Health Nurse.

## SPOTLIGHT ON THE IOWA DOCTOR

In the fall issue of *New Horizons*, the quarterly magazine distributed without charge to more than a third of the families in Iowa by the Iowa Division of the American Cancer Society, doctors are saluted for the part they are playing in controlling the disease. The fall number also contains an account of the research projects which the record-breaking 1953 fund-raising campaign is subsidizing.



---

# WOMAN'S AUXILIARY NEWS

MRS. KEITH M. CHAPLER, *Publications Chairman*, Dexter, Iowa

*President*—MRS. EDWARD B. HOEVEN, 224 E. Alta Vista St., Ottumwa

*President-Elect*—MRS. LESTER R. HEGG, Rock Valley

*Secretary*—MRS. ROBERT P. MASON, 5818 Chamberlain Drive, Des Moines

*Treasurer*—MRS. HOWARD SMEAD, 3333 Grand Avenue, Des Moines

---

## SOUVENIRS AT YEAR'S END

Now it is December—time to send to each and every one of you a very special wish for a happy holiday season. May your memory cache be filled with treasured souvenirs of the past year!

Webster defines *souvenir* as follows: "to remember," "come to mind," "keepsake," "memento," "a remembrancer."

You take your choice of the above definitions and I'll take mine. Mine will be, *remembrancer*—a good word. It is especially appropriate at this time when the old year is tumbling swiftly down into that vast limbo—the past. Twilight with its happy memories or its vain regretting has come. Too soon the bells will ring out the old year. There will be laughter and kisses and Auld Lang Syne and maybe a wistful tear or two for missing friends.

Then, after a while, we will be alone with our thoughts and our memories—our souvenirs. No one can take them from us—even though we fervently may wish it—nor ease the sting, if sting there be. "*Memories That Bless and Burn*." The fire burns low as we sort them over. Are we the richer or the poorer for these souvenirs? Each in his own secret heart must decide for himself.

Then on the morrow a new year. And a newly washed slate will be in front of all of us. This slate too will be bound in red, even as are the traditional slates of our childhood—red edges, red fringe; even as is America.

Let us ponder well what we shall write upon our individual slate. For what is written there will be our souvenirs at next year's end—our remembrancers.

MRS. EDWARD HOEVEN

---

## LET'S ALL JOIN THE AUXILIARY!

In the roster of states Iowa is listed as 27th for membership. Let's all join the Auxiliary this year and put Iowa up in sixth place. Because of our population, we couldn't be first except by 100 per cent membership. And none of us should think of 100 per cent membership as impossible. We could accomplish it if we all worked hard to do it.

The public likes to know and wants to know that the doctors and their families are congenial in the work they do together. By what better and

easier means could we improve public relations than by beginning with our own medical groups? We have more in common than any other one professional group. *Let's work for each other!*

If we are to combat socialization of medicine, we must unite!

Every doctor's wife can and should

1. Participate in the State Auxiliary program by individual membership.

2. Make it her responsibility to know other doctors' families well.

3. Call on new doctors' families in her community.

4. Contribute to the Nurses' Loan Fund.

5. Serve her community as a "resource for health materials." Supply movies, pamphlets, exhibits to meet local needs.

6. Be informed about all phases of medical research, legislation and material in which the general public is interested.

7. Be able to talk with authority about Blue Shield and Blue Cross insurance and its advantages.

8. Show interest in other health agencies and their programs.

9. Encourage the public to read TODAY'S HEALTH magazine.

10. Be alert at all times to further the aims of the medical profession.

MRS. CHARLES H. FLYNN  
*1st Vice-president and  
Organization Chairman*

---

## AUXILIARY ACTIVITIES

### Wapello County

The Wapello County Auxiliary held their first fall meeting October 6, 1953, at the home of Mrs. L. H. Prewitt.

Mrs. A. T. Austin gave several suggestions as to how to get TODAY'S HEALTH before the public. A committee was chosen to look into the possibility of forming a future nurses' club in Ottumwa, made up of high school girls who are interested in nursing as a career.

The program was presented by Mr. David Jay, who showed a very interesting film on Civil Defense.

MRS. R. D. DALAGER

### District Three

The Sioux County Woman's Auxiliary and Mrs. Edward Grossman, third district councilor, were hostesses to the doctors' wives of the third district at a one o'clock luncheon on September 23, 1953. Thirty women attended this meeting.

Mrs. Lester Hegg, president-elect, presided at the meeting and introduced the distinguished guests. Mrs. Edward B. Hoeven, our State President spoke on Auxiliary work and our projects for the next year. She announced a workshop for county presidents at our next regular board meeting, in November.

Dr. W. L. Downing, LeMars, a member of the State Medical Society Board of Trustees commended the Auxiliary for its worthwhile assistance in state and county medical programs. He gave an informative outline of how our physician husbands' medical society dues are disbursed.

Mrs. Dean King, Spencer, spoke on programs for the year and asked that each county program chairman send in a copy of her year's program. She urged all to attend the state meeting in Des Moines, promising a very entertaining program this year.

Mrs. Charles H. Flynn stated the organization program and its goals for the coming year, urging each doctor's wife to make herself an integral part of the organization committee and make it her individual responsibility to help increase state membership.

Mrs. Hoeven was recipient of a very lovely silver tray for having driven the longest distance to attend this meeting.

A very lovely style show concluded the afternoon program and was presented by Mr. Ellerbrock, using models from his Woman's Ready to Wear Shop in Sheldon.

MRS. CHARLES H. FLYNN  
1st vice-pres.-organization

Notice to County Secretaries:—Send in copies of your monthly minutes to your district councilor.

### HEALTH SUBJECTS ARE POPULAR

The best public relations tool in the health education field is the AMA publication, *Today's Health*. Of an average paid circulation of 260,000 copies per month, about 68 per cent reach home readers (housewives, retired persons, office and industrial employees), 18 per cent go into physicians' and dentists' reception rooms, and the remainder will be found in libraries and educational institutions.

*Today's Health* is a magazine for the general public, dealing with scientific medical discoveries and with economic, social, political, industrial, and educational problems insofar as they have a bearing on the health and welfare of the people.

We know that health subjects are popular, for

a look at any newsstand will reveal not only many health publications, but health articles prominently announced on the covers of all leading magazines.

Recent surveys have shown that *Today's Health*, alone, has a readership, including the great number who see copies in their physician's or dentist's office, of between 3 and 4 million each month.

Pamphlet reprints of *Today's Health* articles are released to press and radio, and mailed directly to schools and homes each month, adding many more thousands of readers.

In 1952, nine consumer magazines with a total readership of over 37,000,000 reprinted articles published by the AMA in *Today's Health*.

Public and school libraries know the value of and interest in health topics, and *Today's Health* will be found in nearly every library in the country.

The interest and need for authentic health education material has never been greater, and the Auxiliary can help the American Medical Association and its Bureau of Health Education reach more and more of the general public, thus doing the best public relations possible.

## SPEAKERS' BUREAU SCHEDULES

### RADIO

WSUI—IOWA CITY

Tuesday at 11:45 a. m.

"PANORAMA OF RESEARCH"

December 1 ..... Alcoholism

"THE STORY OF SURGERY"

December 8 .. Surgical Progress Since the Middle Ages

December 15 ..... The Making of a Surgeon

December 22 ..... Surgery of the Appendix

December 29 ..... Surgery of the Gall Bladder

WOI—AMES

Thursday at 11:15 a. m.

"MAIN STREET MEDICINE"

December 3 .. Human Tuberculosis Accreditation

December 10 ..... Doctors' Emergency Service

December 17 ..... Medical Scholarship

December 24 ..... Care of the Indigent

December 31 ..... Medical Care for All

### TELEVISION

WOI-TV—AMES

Friday at 8:00 p. m.

December 4 ..... Training of a Pharmacist (I)

December 11 ..... Training of a Pharmacist (II)

December 18 ..... Epilepsy

December 25 ..... To be announced



## The Preceptorship

(Continued from page 525)

when he is prepared to profit most from the preceptorship experience.

By way of constructive criticism of the preceptorship program as it now stands, the following suggestions are offered: (1) An attempt should be made to set forth a more definite program, thus enabling the preceptor to determine more precisely what is expected of him. Because of the nature of the preceptorship, this could only be offered to the preceptor as a suggestion, but many would find such a program a profitable guide. (2) An attempt should be made to secure a more active student participation in seeing and managing patients. Again this is difficult in a private practice, but perhaps it could be suggested that the student, during his second two weeks, see and evaluate appropriate return cases alone and then discuss his reasons for his conclusions with the preceptor. This might be quite profitable if the student is alert to the limitations of time and avoids unnecessary detail. (3) The preceptee should receive more definite instruction as to the potential benefits that are available to him in the preceptorship experience. It is important that the student have the proper attitude toward this period; such instruction should help in this direction. The problems in the preceptorship that these suggestions are designed to meet are not serious ones, but their elimination would help increase the value of training periods in the future.

As a conclusion for this essay, a brief summary of the outline of this paper might profitably be given. The important items of value of the preceptorship have been listed and discussed. The possible disadvantages have been mentioned. Other factors bearing on the value of the preceptorship have been considered. Several suggestions designed to enhance the value of the period were made. The opinion of the writer as to the value of the preceptorship in medical training is briefly this, that the advantages offered by such a program are many, the disadvantages few and only potential. This thirty day period should be among the most profitable of the entire course of medical training, and it should be included in the regular education program. The preceptorship is an important step toward the ultimate goal of medical education, that of graduating doctors prepared to practice the science and art of medicine.

## MEDICAL TECHNOLOGY

The University of Kansas School of Medicine is to present a refresher course in medical technology at Kansas City, Kansas, January 11-13, inclusive. An annual event, the course consists of lectures and panel discussions, and is open to everyone who serves in a medical laboratory, whether a regis-

tered technician or not, upon payment of the \$12.00 enrollment fee. The program announcement is available on request.

## Joint Committee on X-ray

(Continued from page 502)

reduced by double readings of the films, but since funds and personnel for such a procedure aren't always available, the Committee doesn't recommend it unreservedly.

### PROFESSIONAL COMPENSATION

As regards the professional cost of performing routine chest examinations in hospitals, the Joint Committee believes the radiologist and/or chest physician should be compensated just like any other physicians practicing their professions. The procedure is time consuming and places a definite responsibility on the radiologist or chest physician. The Committee likewise felt that in this matter the base principle of payment is by arrangement between the physician and the hospital or agency involved. In the reading of follow-up films there should also be an individual limit to the number of films which should be read in any one day by one physician, and which he should not exceed. The compensation, of course, would have to depend upon whether the physician both makes the film and interprets it.

Because, at the present time, there are no satisfactory ways of evaluating the qualifications of a particular reader, the Committee undertook to set no standards.

### PROTECTION AGAINST RADIATION

Since the number of lesions overlooked because of clothing (2 percent) is considerably smaller than the normal variations in interpretation (Chamberlain, etc.) in the reading of photofluorographic films, the Committee held that whether the patient is clothed or unclothed makes no appreciable difference.

Film badges or other devices should constantly be used to monitor the radiation to which professional, technical and clerical personnel are exposed. When an individual receives more than 100 milliroentgens per week, the medical officer in charge should immediately determine whether the individual has been careless or whether the protective devices of the equipment are at fault.

### JOINT COMMITTEE WILL CONTINUE

The Joint Committee is to continue its work, holding annual meetings and special ones at the call of its co-chairman, Dr. Leo G. Rigler, of Minneapolis (for the American College of Radiology), and Dr. Otto L. Bettag, of Chicago (for the American College of Chest Physicians). Recommendations are solicited from all those who are interested in the affairs of the Joint Committee.

---

# SOCIETY PROCEEDINGS

---

## MEETINGS

### Black Hawk

The Black Hawk County Medical Society heard Dr. Charles D. May, professor of pediatrics at SUI, discuss "Fibrocystic Diseases" at its October 20 meeting in the Waterloo Elks Club.

---

### Johnson

At its meetings at the Oakdale Sanitorium on November 4, the Johnson County Medical Society heard Dr. Robert B. May, of the Veterans Hospital in Knoxville, discuss "The Control of Pulmonary Tuberculosis in Iowa State Mental Hospitals."

---

### Linn

Members of the Linn County Medical Society were addressed by Dr. James Cain, of the Mayo Clinic, on "Differential Diagnosis of Mild, Painless Jaundice" at their meeting in Cedar Rapids on October 8.

---

### Polk

Dr. Alvan L. Barach, of Presbyterian Hospital, New York City, was guest speaker at the October 21 meeting of the Polk County Medical Society, held in the Savery Hotel. Dr. Barach spoke on "Non-Tuberculous Lesions of the Chest." Membership certificates in the Iowa State Medical Society's Fifty Year Club were presented to Dr. E. R. Posner, Dr. Oran W. King and Dr. Robert A. Weston, the latter two in *absentia*. Seven physicians who have begun practice in Des Moines since July 1 were presented: Drs. R. I. Burns, D. L. Edelman, James O. Merritt, Don O. Newland, Stewart Olson, Carlton W. Van Natta and Paul L. Warner.

---

### Pottawattamie

The psychiatric staff of St. Bernard's Hospital, consisting of Dr. W. E. Ash, Dr. James D. Mahoney and Dr. Richard Leander, were hosts to 40 members of the Pottawattamie County Medical Society on October 20. Dr. Ash and his colleagues conducted the members on a tour of the new wing of the hospital and presented a program on the development of their specialty and on the effects it has brought about in medical practice generally.

### Scott

Dr. E. A. Hines, Jr., professor of medicine at the Mayo Clinic, addressed the Scott County Medical Society on "Some Medical Aspects of Peripheral Vascular Disease," at its meeting on November 3, in Davenport.

---

### Wapello

Dr. Lucien E. Morris, an associate professor of anesthesiology at SUI, addressed members of the Wapello County Medical Society and their guests at a meeting held at the Ottumwa Hospital on November 3. Doctors from surrounding counties were in attendance.

---

### Woodbury

At the meeting of the Woodbury County Medical Society on October 20, Dr. R. T. Tidrick, professor of surgery at SUI, spoke on "Problems of the Common Duct."

---

## PERSONALS

**Dr. S. F. Singer**, Ottumwa radiologist, was elected a director of the American Society for a two-year term, at its annual meeting in New York City on November 5.

---

**Dr. C. E. Mershon**, of Adel, has closed his office after 53 years of practice, but intends to continue serving at least some patients at his home. He is a Life Member of the Iowa State Medical Society.

---

The newly organized American Foundation for Allergic Diseases has named **Dr. Lawrence J. Halpin**, of Cedar Rapids, to be one of its trustees. Sponsored by the American Academy of Allergy and the American College of Allergists, the Foundation will coordinate and promote research, and disseminate information both to the public and to the profession.

---

Former residents in the Department of Otolaryngology at the SUI College of Medicine honored **Dr. D. M. Lierle** at a testimonial dinner on October 5, at the Palmer House, in Chicago. The occasion commemorated Dr. Lierle's 25th year as head of the Department. The speakers included **Dr. Gordon F. Harkness**, of Davenport, and **Dr. Ralph C. Carpenter**, of Marshalltown.



**Dr. Henry L. Malench**, a 1950 graduate of the St. Louis University Medical School, has joined Dr. R. L. Lagoni in general practice at Eldridge. Since completing his internship at the Detroit Receiving Hospital, Dr. Malench has served two years with the Army.

and frequently unrecompensed, service as a physician.

The Creston Medical Clinic has announced the addition to its staff of a pediatrician, **Dr. William A. Fisher**, who received his M.D. at Temple University.

**Dr. Rubin H. Flocks**, professor and head of the Department of Urology at SUI, was elected president of the North Central Section of the American Urological Association at its meeting in Cincinnati on October 9.

**Dr. Elmer O. Bean**, of Council Bluffs, who has been associated with the Cogley Clinic since 1950 and is an instructor in pediatrics at the Creighton University College of Medicine, opened an office for the individual practice of his specialty on October 30.

**Dr. Ralph W. Taraba**, a graduate of Northwestern University Medical School, has become a member of the medical department of the Iowa Ordnance Plant in Burlington, as physician and surgeon.

## DEATHS

**Dr. William Franklin Carver**, 83, who retired in 1940 after 43 years in the practice of his specialty, eye, ear, nose and throat, died quite suddenly at Ft. Dodge on October 28. Dr. Carver was a past-president of the Webster County Medical Society and a member of the state Society's Fifty Year Club.

**Dr. Arthur E. Steindler**, distinguished service professor emeritus and orthopedic surgeon at SUI, delivered a two-weeks series of lectures on kinesiology at New York City's Hospital for Joint Diseases and orthopedic instruction, during the latter part of October.

**Dr. Frederick Folket Null**, 75, of Haywarden, who practiced medicine for nearly fifty years in northwest Iowa, died there on October 15, after a lengthy illness.

The Mississippi Valley Trudeau Society chose the medical director of Broadlawns Polk County Tuberculosis Hospital, **Dr. Leon J. Galinsky**, as vice-president, during the convention held in Minneapolis during October.

**Dr. Edgar O. Hicks**, 33, of Clinton, an orthopedic surgeon, suffered a fatal heart attack while driving his car near Mount Vernon, on October 18.

Citizens of Marcus honored **Dr. M. F. Joynt** at a dinner on the evening of November 10. Dr. Joynt has served the community for 43 years.

**Dr. Cullen Bryant Roe**, 65, a physician in Afton for 28 years and, since 1947, coroner of Union county, died on October 30 at the Greater Community Hospital, in Creston. Dr. Roe's death was the consequence of a heart ailment, but he had not been seriously ill. Indeed he had continued working until the day before he died.

At the annual meeting of the Iowa Division of the American Cancer Society, in Des Moines, on October 11, **Dr. J. R. Dewey**, of Schaller, was awarded the citation which is given each year to the man or woman believed to have made a significant contribution to the control of cancer. In accepting the award, Dr. Dewey paid tribute to the late **Dr. Arthur W. Erskine**, of Cedar Rapids, **Dr. E. D. Plass**, formerly of Iowa City, **Dr. Harold W. Morgan**, of Mason City, and the thousands of volunteers who have helped to make the Iowa Division one of the most outstanding in the Society.

The Community Club of Sheffield designated **Dr. F. H. Rodemeyer** the town's leading citizen at a dinner held in his honor on October 26. In the citation, Dr. Rodemeyer's work in a number of municipal enterprises received mention, though major emphasis was reserved for his unstinted,

## ROSTER OF IOWA PHYSICIANS IN MILITARY SERVICE

As of November 10, 1953

Ackerman, J. H., Clarksville  
(Atlanta, Georgia) ....Sr. Asst. Surgeon, U.S.P.H.S.  
Arnold, K. E., Sioux City  
(Port Hueneme, Calif.) ..... Lt. (j.g.), U.S.N.R.  
Bartholomew, R. D., Lake City  
(Walnut Creek, Calif.) .....Lt. (j.g.), U.S.N.R.  
Benton, J. S., Des Moines.....1st. Lt., A.U.S.  
Bogle, W. C., Marion  
(Great Lakes, Ill.) .....Lt., U.S.N.R.  
Baatelien, N. T., Des Moines  
(Rock Island, Ill.) ..... 1st Lt., U.S.A.F.

- Brennan, J. E., Des Moines  
(Camp Pendleton, Calif.) .....Lt., U.S.N.R.
- Broman, J. A., Maquoketa  
(Ft. Sill, Okla.) ..... Capt., A.U.S.
- Buzan, E. F., Des Moines  
(Yuma, Arizona)
- Christensen, J. R., Eagle Grove  
(Battle Creek, Mich.) .....Lt., A.U.S.
- Cline, H. L., Iowa City  
(Denver, Colorado) ..... A.U.S.
- Couchman, P. G., Des Moines  
(Ft. Riley, Kansas) .....1st Lt., U.S.A.F.
- Daut, R. V., Davenport  
(Westover Field, Massachusetts) ....Capt., U.S.A.F.
- Davidson, M. C., Emmetsburg  
(El Paso, Tex.) .....Col., A.U.S.
- Donahoe, J. F., Fort Dodge  
(Des Moines, Iowa) .....1st Lt., A.U.S.
- Dooley, J. E., Fort Dodge  
(Pleasanton, Calif.) .....Capt., U.S.A.F.
- Dunseth, W. R., Kellogg  
(APO San Francisco, Calif.) .....USAF
- Eckhardt, R. D., Iowa City  
(Portsmouth, Virginia) ..... Lt., U.S.N.R.
- Ehmke, Bruce C., Iowa City  
(Hot Springs, Arkansas) .....1st Lt., A.U.S.
- Field, C. A., Cresco  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.
- Garred, J. L., Whiting  
(San Francisco, Calif.) .....Lt., U.S.N.R.
- Garred, W. P., Dow City  
(San Francisco, Calif.) .....Lt.(j.g.), U.S.N.R.
- Giles, Francis E., Cresco  
(Fort Bragg, North Carolina) .....A.U.S.
- Godbey, M. E., Mt. Pleasant  
(Gunter AFB, Montgomery, Ala) 1st Lt., U.S.A.F.
- Gottsch, Jos. C., Shenandoah  
(San Antonio, Texas) .....
- Haskell, J. G., Reinbeck
- Hickman, D. M., Indianola  
(Alexandria, Louisiana) ..... 1st Lt., U.S.A.F.
- Isham, R. B., Osage .....U.S.N.R.
- Iwen, G. W., Iowa City
- Jenkins, H. F., Ogden  
(Randolph AFB, Texas) .....U.S.A.F.
- Johnson, A. A., Jr., Council Bluffs  
(Fort Worth, Texas) .....Capt., U.S.A.F.
- Johnson, M. H., Iowa City  
(APO New York, N. Y.) .....Capt., A.U.S.
- Johnson, W. A., Emmetsburg  
(Corona, California) .....Lt., U.S.N.R.
- Judiesch, K. J., Iowa City  
(Ft. Sam Houston, Tex.) .....1st Lt., A.U.S.
- Kenney, B. E., Woodbine  
(Raleigh, North Carolina) .....1st Lt., U.S.A.F.
- Kruse, R. H., Conrad  
(Pearl Harbor, T. H.) .....Lt., U.S.N.R.
- Kuehn, W. G., Clarinda  
(A.P.O. San Francisco, Calif.) .....Lt., U.S.N.R.
- Kuehnle, G. R., Dubuque  
(Baton Rouge, La.)
- Kurth, R. J., Waterloo  
(Minneapolis, Minn.) .....Capt., U.S.A.F.
- Larson, Erling, Jr., Des Moines  
(Indianapolis, Indiana) .....Lt., U.S.N.R.
- Lawler, Matthew P., Des Moines  
(Corona, California) .....U.S.N.
- Leiter, E. R. K., Des Moines  
(Bangor, Me.) .....Capt., U.S.A.F.
- McMahon, A. E., Jr., Des Moines  
(Omaha, Nebraska) .....U.S.N.R.
- Martins, J. K., Waterloo  
(Bayonne, N. J.) ..... Lt., U.S.N.R.
- Maxwell, J. R., Iowa City  
(Ft. Sam Houston, Tex.) .....1st Lt., A.U.S.
- Middleton, W. H., Central City  
(Bethesda, Maryland) .....U.S.N.R.
- Montgomery, A. E., Jefferson  
(Phoenixville, Pa.) .....Lt. Col., A.U.S.
- Nielsen, G. E., Des Moines  
(Topeka, Kan.) ..... 1st Lt., U.S.A.F.
- Paul, R. E., Des Moines  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.
- Perman, Harvey H., Forest City  
(Yokasuka, Japan) .....U.S.N.
- Peterson, L. G., Holstein  
(Camp Kilmer, N. J.) .....A.U.S.
- Pfaff, R. A., Dubuque  
(Camp Pendleton, Calif.) ..... Lt., U.S.N.R.
- Pfeiffer, D. W., McGregor  
(Ft. Sam Houston, Texas) .....A.U.S.
- Prendergast, L. J., Iowa City  
(Oceanside, California) ..... U.S.N.R.
- Province, Wm., Jr., Dubuque  
(Long Beach, Calif.) .....U.S.N.R.
- Puntenney, A. W., Boone  
(Portsmouth, Va.) .....Lt., U.S.N.R.
- Rhode, M. C., Iowa City  
(Philadelphia, Pa.)
- Saunders, R. J., Colfax  
(APO San Francisco, Calif.) ..... 1st Lt., U.S.A.F.
- Schlichtemeier, E. O., Peterson  
(FPO San Francisco, Calif.) .....Lt., U.S.N.R.
- Shaffer, F. J., Iowa City.....Col., U.S.A.F.
- Shulldberg, Arthur, Des Moines  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
- Sinton, D. W., Iowa City  
(Colorado Springs, Colorado) .....A.U.S.
- Smith, C. B., Iowa City  
(Bowling Green, Ky.) .....Capt., A.U.S.
- Sphonheimer, L. N., Donnellson  
(Mountain Home AFB, Idaho) ....1st Lt., U.S.A.F.
- Stivers, T. W., Des Moines  
(Hutchinson, Kansas) .....Lt. (jg) U.S.N.R.
- Stutsman, R. E., Washington  
(Miami, Fla.) .....Cmdr., U.S.N.
- Sugioka, Kenneth, Iowa City  
(Long Island, N. Y.) ..... A.U.S.
- Theilen, E. O., Iowa City  
(Washington, D. C.) .....Capt. A.U.S.
- Thompson, J. W., Ames  
(Camp Breckinridge, Kentucky) .... Capt., A.U.S.
- Thornton, F. E., Des Moines  
(Portsmouth, Va.) .....Lt. Cmdr., U.S.N.R.
- Troxel, J. F., Cedar Rapids  
(APO New York, N. Y.) .....1st Lt., A.U.S.
- Uchiyama, J. K., Des Moines  
(Wichita Falls, Texas) ..... 1st Lt., U.S.A.F.
- von Lackum, L. S., Oelwein  
(Great Lakes, Ill.) .....Lt., U.S.N.R.
- Voorhees, P. H., Ottumwa  
(Jamaica, N. Y.) .....U.S.N.R.
- Wall, J. M., Boone  
(Gunter AFB, Ala.) .....1st Lt., U.S.A.F.
- Walker, J. R., Waterloo  
(Bethesda, Maryland) ..... Lt., U.S.N.R.
- Walston, J. H., Graettinger  
(Lackland AFB, Texas) .....1st Lt., U.S.A.F.
- Westly, J. S., Mason City  
(F.P.O., New York City) .....Lt., U.S.N.R.
- Wiedemeier, J. L., Sioux City  
(APO San Francisco, Calif.) .....1st Lt., A.U.S.
- \*Wilkins, D. S., Iowa City  
(APO San Francisco, Calif.) .....Capt., A.U.S.
- Witte, H. J., Marathon  
(San Francisco, Calif.) .....Lt. Col., A.U.S.
- Young, R. A., Clarion  
(Ft. Sam Houston, Tex.) .....Capt., A.U.S.
- Zeilenga, R. H., Orange City  
(Madison, Wisc.) .....1st Lt., U.S.A.F.
- Zoeckler, Samuel J., Des Moines  
(Ft. Sam Houston, Texas) .....1st Lt., A.U.S.



# THE JOURNAL

*of the*

## Iowa State Medical Society



### INDEX

Volume XLIII • Numbers 1-12

1953

#### A

A.M.A. News Notes.....	186
A.M.A. Public Relations Institute.....	426
Abbott, Walter D., M.D., Early and Late Complications of Head Injuries.....	95
Academy of General Practice, Iowa.....	35, 75, 126, 162, 194, 241, 280, 353, 432, 480, 522
Acute Poliomyelitis, R. M. Blizzard, M.D., F. E. Sawyer, M.D., A. K. Chappell, M.D.....	361
Aeroplast Dressings (Editorial).....	24
Allen, Lee, Braley, A.E., M.D., and Webster, Howard, Problems in Ocular Prosthetics.....	329
Allen, Hoyt H., M.D., (co-author) Vaginal Hysterectomy in the Treatment of Prolapse.....	50
Allergic Reactions to Catgut Preservatives, Glenn S. Rost, M.D.....	218
American College of Surgeons Inducts Iowans.....	505
American Country Life Conference.....	266, 424
American Medical Association Recommends That U. S. Withdraw From International Labor Organization (Editorial).....	64
American Medical Education Foundation (Editorial).....	384
Amick, Lawrence D., A Case of "Pulmonary Adenomatosis" Emphasizing Diagnostic Considerations.....	219
Anaphalactic Shock Due to Penicillin, E. A. Larsen, M.D.....	217
Annual Meeting (Editorial).....	116, 231
Annual Meeting of the A.M.A., Highlights of the 102nd (Editorial).....	269
Anti-Rabies Treatment, Indications for (Department of Health).....	354
April Is Cancer Month (Editorial).....	155
Are We Giving Our Wives a Break? (Editorial).....	471
Armor Saving Lives.....	246
Autonomic Nervous System: Clinical Significance, L. T. Palumbo, M.D.....	326

#### B

Bausch & Lomb Offers Film on Microscope Use.....	523
Bedell, George N., M.D., and Culbertson, James W., M.D., Thoracic Cardiovascular Surgery at S.U.I., I. Medical and Physiological Evaluation.....	443
Bettler, Philip L., M.D., Present Concepts of Silent Gallstones.....	4
Bierring, Walter L., M.D., Maryland State Board of Health Resolution.....	50
Bierring, Walter L., M.D., Tuberculosis in the Aging Population in Iowa.....	500
Bleeding From the Upper Gastrointestinal Tract—a Symposium	
Pt. I. Medical Management, Walter M. Kirkendall, M.D.....	209
Pt. II. Role of the Roentgenologist, G. S. Lodwick, M.D.....	211
Pt. III. Role of Surgery, Robt. C. Hickey, M.D.....	213
Pt. IV. Role of the Pathologist, K. R. Cross, M.D.....	215
Blizzard, Robert M., M.D., Sawyer, F. E., M.D., Chappell, A. K., M.D., Acute Poliomyelitis.....	361
Blue Cross-Blue Shield (Editorial).....	196
Blue Cross-Blue Shield.....	34, 74, 124, 160, 195, 242, 277, 350, 387, 429, 478, 520
Blue Cross-Blue Shield, Changing Philosophies in (Editorial).....	154
Book Shelf, Journal.....	36, 77, 127, 163, 197, 243, 278, 351, 390, 433, 479
Braley, A. E. (co-author) Problems in Ocular Prosthetics.....	329
Broadcasters Promise Cooperation.....	441
Brucellosis in Iowa in 1952 (State Department of Health).....	282
Burian, Hermann M., M.D., Convergence Insufficiency.....	380
Bush, Earl Blaine, M.D.....	119
Butazolidin (Phenylbutazone) (Editorial).....	155

## C

Can We Have a Two-Way Street? (Editorial).....	513
Cancer Deaths in Children, E. G. Zimmerer, M.D.....	174
Cancer Diagnosis, Early (Editorial).....	383
Cancer Incidence and Mortality, F. W. Mulsow, M.D.....	176
Cancer of the Lung (Coll. of Med. Clin. Path. Conf.).....	62
Cancer Prevention Applied to Carcinoma of the Colon, R. J. Jackman, M.D.....	94
Carcinoma of the Adrenals, Lung, Liver & Kidney (Coll. of Med. Clin. Path. Conf.).....	336
Carcinoma of the Cervix Uteri, Comparative Radiothera- peutic Results in, H. B. Hunt, M.D.....	403
Carcinoma of the Colon, Cancer Prevention Applied to, R. J. Jackman, M.D.....	94
Carcinoma of the Stomach, The Problem of, With Special Reference to Encouraging Trends of Survival Rates, Howard K. Gray, M.D.....	493
Cardiac Arrest, Prophylaxis of (Editorial).....	183
Cardiac Surgery (Editorial).....	231
Cardiac Surgery at S.U.I. (Symposium).....	443
Carleton, E. H., M.D., What Constitutes a Compensation Case?.....	323
Carney, Robert G., M.D., Problem of Serologic Testing for Syphilis.....	377
Case of "Pulmonary Adenomatosis" Emphasizing Diag- nostic Considerations, Lawrence D. Amick, M.D.....	218
Case Report of Synovium, John H. Sunderbruch, M.D.....	105
Catgut Preservative, Allergic Reactions to, G. S. Rost, M.D.....	218
Cesarean Sections in Iowa in 1950, Madelene M. Donnelly, M.D.....	253
Changing Philosophies in Blue Cross-Blue Shield (Edi- torial).....	154
Chappell, Allan K. (co-author), Acute Poliomyelitis.....	361
Chicago Meetings in May.....	173
Childbirth, Education for, in Private Practice, H. L. Miller, M.D., and F. E. Flannery, M.D.....	9
Clinical Biochemistry Laboratory, Functions of, J. I. Routh and J. P. Hummel.....	148
Clinician—An Obituary, Horace M. Korns, M.D.....	251
Clinicopathologic Conference (Mercy Hospital, Des Moines).....	336
Cole, Warren H., Management of Benign Lesions of the Common Duct.....	489
College of Medicine Clinical Pathologic Conference .....	17, 57, 107, 181, 225, 336, 466, 505
Common Duct, Management of Benign Lesions of the, Warren H. Cole, M.D.....	489
Comparative Radiotherapeutic Results in Carcinoma of the Cervix Uteri as Modified by Prior Surgery and Radiation, H. B. Hunt, M.D.....	403
Compensation Case, What Constitutes a E. H. Carleton, M.D.....	323
Convergence Insufficiency, Hermann M. Burian, M.D.....	380
Cooper, Kenneth L., M.D. (co-author) Pudendal Block Anesthesia in Obstetrics.....	409
Costs of Untreated Syphilis (State Department of Health).....	397
County Medical Society Officers.....	204, 250, 318, 402
County Public Health Nurse's Annual Report, A.....	527
County-Wide X-ray Programs (State Department of Health).....	397
Coxsackie Group of Viruses, A. P. McKee, M.D., J. M. Layton, M.D., W. S. Jeter, Ph.D., and J. R. Por- ter, Ph.D.....	143
Cranial Trauma, Ocular Manifestations of, George S. At- kinson, M.D.....	503
Crew, Philip I., M.D., Management of the Persistent Occiput Posterior Position.....	48
Cross, Kenneth R., M.D., Bleeding From the Upper Gas- trointestinal Tract—A Symposium, Pt. IV. Role of the Pathologist.....	215
Crippled Children and Handicapped Adults, A Plea for the Local Care of, Leo J. Miltner, M.D.....	25
Culbertson, James W., M.D., and Bedell, George N., M.D., Thoracic Cardiovascular Surgery at S.U.I., I. Medical and Physiological Evaluation.....	443
Culp, David A., M.D. (co-author), Hypospadias.....	495

## D

Dana, Ethel S., M.D., The Midforceps Operation.....	52
Deaths, 41, 81, 133, 168, 202, 248, 286, 357, 400, 439, 487, 533 Deaths From Selected Causes, January 1952-January 1953 (State Department of Health).....	199
Dedication of the Philip Charles Jeans Pediatric Library, S.U.I. ....	473
Dermatitis, Therapeutic Contact, Reuben Nomland, M.D.....	150
Department of Health, State .....	37, 78, 128, 164, 198, 244, 282, 354, 396, 437, 484
Diabetic, Future of the Young, Robert L. Jackson, M.D.....	175
Diabetic Mother, Problems Posed by the Infant of a R. D. Gauchat, M.D.....	416
Dippert, Lucy, R.N., (co-author) Venereal Disease Control Program in Iowa.....	101
District Meeting of Iowa Interprofessional Association ...	42
Do You Know That—(State Department of Health).....	79

Doctor Draft Law (Editorial).....	188
Doctors Give Twelve Percent of Time (Editorial).....	196
Dr. H. M. Tharp of Monroe Honored (Editorial).....	233
Doctors' Secretaries Meetings.....	470
Does the Doctor Cooperate? (Editorial).....	514
Donnelly, Madelene, M.D., Cesarean Sections in Iowa in 1950.....	253
Don't Forget the Blue Shield Annual Meeting (Editorial).....	118

## E

Each Member Can Help (Editorial).....	232
Early and Late Complications of Head Injuries W. D. Abbott, M.D.....	95
Early Cancer Diagnosis (Editorial).....	383
Education for Childbirth in Private Practice, H. L. Miller, M.D., and Francis E. Flannery, M.D.....	9
Educational Fund (Editorial).....	268
Ehrenhaft, J. L., M.D., Thoracic Cardiovascular Surgery at S.U.I., III. Surgical Treatment.....	453
Electrocardiography, Pitfalls in, Donald J. Wagner, M.D.....	412
Electrolyte Concentration, Simple Chemical Tests for (Editorial).....	471
Emergency Call Service (Editorial).....	24
Epidemiology of Poliomyelitis, Franklin H. Top, M.D.....	138
Erskine, Arthur Wright, M.D.....	67
Erythroblastosis, Present Day Management of, D'Annette Snyder, M.D.....	373
Evolution of the GP Specialists (Editorial).....	65
Exam for U.S.P.H.S. Appointments.....	483
Executive Council's Opinion on Proper Billing of Patients (Editorial).....	64

## F

Fifty Year Club Members.....	317
Flannery, Francis E., M.D. (co-author), Education for Childbirth in Private Practice.....	9
Flocks, Rubin H., M.D. (co-author), Hypospadias.....	495
Fluoridation, Research Dramatizes Need for (State De- partment of Health).....	484
Fractures and Casts, James K. Stack, M.D.....	319
Fractures of the Neck of the Femur, Treatment of Com- plications of, Carroll B. Larson, M.D.....	258
Friends Service Committee at Independence (Editorial).....	69
Functions of a Clinical Biochemistry Laboratory J. I. Routh & J. P. Hummel.....	148
Future of the Young Diabetic, Robert L. Jackson, M.D.....	175

## G

Gallstones, Present Concepts of Silent, P. L. Bettler, M.D. 4	
Gastrointestinal Tract, Upper, Bleeding From— A Symposium.....	209
Gastrointestinal Hemorrhage, Management of, T. F. Thorn- ton, M.D.....	99
Gauchat, Robert D., (co-author) Management of Acute Severe Illness in Infancy and Childhood.....	146
Gauchat, Robert D., Problems Posed by the Newborn Infant of a Diabetic Mother.....	416
Gelperin, Abraham, M.D., (co-author) Venereal Disease Control Program in Iowa.....	101
General Manager's Page .....	29, 71, 120, 157, 190, 236, 274, 346, 388, 430, 476, 518
General Practitioner Award (Editorial).....	234
Geriatrics, Psychiatric Aspects of, Wm. Malamud, M.D.....	461
Golf Tournament, 1953.....	234
Government Business Is Big Business (Editorial).....	512
Gray, Howard K., M.D., The Problem of Carcinoma of the Stomach With Special Reference to Encouraging Trends of Survival Rates.....	493

## H

Happy New Year (Editorial).....	23
Hardin, Robert C., M.D., Teaching Value of the Veterans Hospital.....	153
Head Injuries, Early and Late Complications of W. D. Abbott, M.D.....	95
Health and Social Security (Editorial).....	187
Heart Disease Institute (Editorial).....	471
Heeren, Ralph H., M.D., Dippert, L. R.N., Gelperin, A., M.D., and Plude, W. D., Venereal Disease Control Pro- gram in Iowa.....	101
Hemochromatosis, Hepatic Cirrhosis and Jaundice (Col. of Med. Clin. Path. Conf.).....	505
Hennessey, James D., M.D., Use of Metallic Elements in Repair of Hernia Defects.....	7
Hepatic Cirrhosis, Hemochromatosis and Jaundice (Col. of Med. Clin. Path. Conf.).....	505
Hernia Defects, Use of Metallic Elements in Repair of, J. D. Hennessey, M.D.....	7
Hickey, Robert C., Bleeding From the Upper Gastrointes- tinal tract—A Symposium, Pt. III. Role of Surgery.....	213
High-Speed Hypnosis (Editorial).....	384
Highlights of Trustees' Meetings Since Annual Meeting Last April.....	384



Highlights of the 102nd Annual Meeting of the A.M.A. (Editorial) .....	269
Hip Fractures, Surgical Fixation of (Editorial) .....	66
Howell, Billy D., The Preceptorship, a Critical Evaluation of Its Value in Medical Training .....	523
How's About That Questionnaire? (Editorial) .....	514
Huffman, William C., M.D., Culp, David A., M.D., and Flocks, Rubin H., M.D., Hypospadias .....	495
Hummel, J. P., and Routh, Joseph I., Functions of a Clinical Biochemistry Laboratory .....	148
Hunt, Howard B., M.D., Comparative Radiotherapeutic Results in Carcinoma of the Cervix Uteri as Modified by Prior Surgery and Radiation .....	403
Hypnosis, High-Speed (Editorial) .....	384
Hypospadias, Wm. C. Huffman, M.D., David A. Culp, M.D., and Rubin H. Flocks, M.D. ....	495

## I

Indications for Anti-Rabies Treatment (State Department of Health) .....	354
Infectious Hepatitis Increase Continues (State Department of Health) .....	526
Insecticide Vaporizers (State Department of Health) .....	37
Interdepartmental Committee on Pest Control (State Department of Health) .....	37
Internship (Editorial) .....	343
Interprofessional Meetings .....	42, 424
Iowa Academy of General Practice .....	35, 75, 126, 162, 194, 241, 280, 353, 386, 432, 480, 522
Iowa Interprofessional Committee on Eye Care .....	165
Iowa Interprofessional Association, District Meeting .....	42
Iowa Pediatrics Society Appoints New Secretary .....	8
Iowa State Medical Society Educational Loan Fund (Editorial) .....	117
Iowa State Medical Society Officers and Committees, 1952-1953 .....	135
Iowa State Medical Society Officers and Committees, 1953-1954 .....	305, 359
Iowa Tuberculosis and Health Association, Iowa Heart Association, Iowa Trudeau Society .....	165
Isolation for Poliomyelitis (State Department of Health) F. H. Top, M.D. ....	396

## J

Jackman, Raymond J., M.D., Cancer Prevention Applied to Carcinoma of the Colon .....	94
Jackson, Robert L., M.D., Future of the Young Diabetic .....	175
Jaundice, Hemochromatosis and Hepatic Cirrhosis (Col. of Med. Clin. Path. Conf.) .....	505
Jaundice, Philip Thorek, M.D. ....	1
Jeter, W. S., Ph.D. (co-author), Cocksackie Group of Viruses .....	143
Joint Meeting of Iowa and Nebraska Heart Association .....	475
Journal Book Shelf .....	36, 77, 127, 163, 197, 243, 278, 351, 390, 433, 479, 521

## K

Kirkendall, Walter M., M.D., Bleeding From the Upper Gastrointestinal Tract—A Symposium, Pt. I. Medical Management .....	209
Kitchell, Myrtle E., R.N., M.A., Nursing in Iowa .....	263
Knapp, Miland E., M.D., Rehabilitation in Severe Poliomyelitis .....	369
Korns, Horace M., The Clinician—An Obituary .....	251

## L

Larimer, Robert N., M.D., President-Elect's Address .....	207
Larsen, E. A., Anaphylactic Shock Due to Penicillin .....	217
Larson, Carroll B., M.D., Treatment of Complications of Fractures of the Neck of the Femur .....	258
Larson, Erling, M.D., Leptospirosis Due to Leptospira Pomona: Report of First Case in Iowa and a Review of the Literature .....	178
Layton, Jack M., M.D. (co-author), The Cocksackie Group of Viruses .....	143
Legislative Questionnaire, Results of (Editorial) .....	517
Leptospirosis Due to Leptospira Pomona: Report of First Case in Iowa and a Review of the Literature .....	178
Letter to the Editor .....	25
Lodwick, Gwilym S., M.D., Bleeding From the Upper Gastrointestinal Tract—A Symposium, Pt. II, Role of the Roentgenologist .....	211
Long, Draper L., M.D., Some Common Obstetrical Problems and Their Management .....	45

## M

Malamud, Wm., M.D., Psychiatric Aspects of Geriatrics .....	461
Management of Acute Severe Illness in Infancy and Childhood, Charles D. May, M.D. and Robert D. Gauchat, M.D. ....	146
Management of Benign Lesions of the Common Duct,	

Warren H. Cole, M.D. ....	489
Management of Gastrointestinal Hemorrhage, T. F. Thornton, Jr., M.D. ....	99
Management of Persistent Occiput Posterior Position P. I. Crew, M.D. ....	48
Manual of Approved Immunization Technics Now Ready ..	38
Marriage Announcements .....	81
Maryland State Board of Health Resolution .....	50
W. L. Bierring, M.D. ....	50
May, Charles D., M.D., and Gauchat, Robert D., M.D., Management of Acute Severe Illness in Infancy and Childhood .....	146
McCormick, Edw. J., M.D., Address Before Fifth Annual P.R. Conference .....	27
McKee, Albert P., M.D., Layton, J. M., M.D., Jeter, W. S., Ph.D., Porter, J. R., Ph.D., Cocksackie Group of Viruses ..	143
Medical Licenses Issued .....	165
Medical Stenography .....	382
Medical Technology .....	531
Meeting of the Executive Council, August 16 (Editorial) ..	385
Meetings, County Society .....	39, 80, 131, 166, 200, 247, 284, 356, 399, 438, 486, 532
Meetings Preceding A.M.A. ....	208
Melanoma, Disseminated Malignant (Coll. of Med. Clin. Path. Conf.) .....	466
Membership Roster of the Iowa State Medical Society ..	307
Mercy Hospital (Des Moines) Clinicopathologic Conference .....	336
Merit Awards, 1953 .....	233
Methionine and the Surgical Patient (Editorial) .....	232
Midforceps Operation, Ethel S. Dana, M.D. ....	52
Miller, H. Lloyd, M.D., and Flannery, Francis E., M.D., Education for Childbirth in Private Practice .....	9
Miller, H. Lloyd, M.D., Unusual Twin Pregnancy .....	266
Miltner, Leo J., Plea for Local Care for Crippled Children and Handicapped Adults .....	25
Minutes of Meetings of State Officers and Committees .....	32, 84, 125, 384, 428, 473
Minutes of the 1953 Sessions of the House of Delegates ..	288
Morbidity Report .....	38, 79, 130, 164, 199, 246, 283, 354, 398, 437, 485, 527
Mulsow, Frederick W., M.D., Cancer Incidence and Mortality .....	176
Multiple Household Polio (Editorial) .....	384
Multiple Household Polio (State Department of Health) ..	396

## N

Narcotic Prescriptions (Editorial) .....	472
Need for Rehabilitation (Editorial) .....	344
New Assistant Editor (Editorial) .....	187
New Dean Chosen for College of Medicine .....	130
New Documentary Film .....	325
New Format on Eli Lilly Publication .....	57
New Public Relations Manual .....	408
News Notes .....	345
Nomland, Ruben, M.D., Therapeutic Contact Dermatitis ..	150
North Central Medical Conference .....	424, 515
Nurse Utilization Needs Improvement (Editorial) .....	425
Nursing in Iowa (Editorial) .....	267
Nursing in Iowa, Myrtle E. Kitchell, R.N., M.A. ....	263

## O

Obstetrical Problems, D. L. Long, M.D. ....	45
Ocular Prosthetics, Problems in, Lee Allen, et al. ....	329
Occiput Posterior Position, Management of the Persistent P. I. Crew, M.D. ....	48
Official Gavel of the State Society (Editorial) .....	116
Official Issue (Editorial) .....	267
Open House (State Department of Health) .....	164
Operation Snafu (Editorial) .....	425
Our Technical Exhibitors .....	115

## P

Palumbo, Louis T., M.D., Autonomic Nervous System: Clinical Significance .....	326
Payment of A.M.A. Dues (Editorial) .....	117
Penicillin, Anaphalactic Shock Due to, Larsen, E. A., M.D. ....	217
Personals .....	40, 81, 132, 167, 201, 247, 284, 356, 399, 439, 486, 533
Phenylbutazone (Butazolidin) (Editorial) .....	155
Pheochromocytoma (Editorial) .....	344
Physician and Citizenship (Editorial) .....	23
Physician's Role (Editorial) .....	343
Pitfalls in Electrocardiography, Donald J. Wagner, M.D. ....	412
Plea for Local Care of Crippled Children and Handicapped Adults, Leo J. Miltner, M.D. ....	25
Plude, Walter D. (co-author), Venereal Disease Control Program in Iowa .....	101
Poisoning, Strychnine (Col. of Med. Clin. Path. Conf.) ..	181
Poliomyelitis, Acute, Robert M. Blizard, M.D., F. E. Sawyer, M.D., and A. K. Chappell, M.D. ....	361
Poliomyelitis, Epidemiology of, Franklin K. Top, M.D. ....	138
Poliomyelitis, Gamma Globulin Distribution in Iowa (State Dept. of Health) .....	245



Poliomyelitis, in Iowa (State Department of Health).....	198
Poliomyelitis, Isolation for (State Department of Health).....	396
Poliomyelitis, Multiple Household (Editorial).....	384
Poliomyelitis, Multiple Household (State Department of Health).....	396
Poliomyelitis, Rehabilitation in Severe, Miland E. Knapp, M.D. ....	369
Porter, J. R. (co-author), The Coxsackie Group of Viruses.....	143
Preceptorship, A Critical Evaluation of Its Value in Medical Training, Billy D. Howell.....	523
Present Concepts of Silent Gallstones, P. L. Bettler, M.D. ....	4
Present Day Management of Erythroblastosis, D'Annette Snyder, M.D.....	373
President-Elect's Address, Robert N. Larimer, M.D.....	207
President's Address, Ben T. Whitaker, M.D.....	205
President's Page.....	70, 156, 189, 235, 273, 347, 389, 431, 477
Presidents' and Secretaries' Conference to Be Held March 4.....	134
Prevent Disease Resulting From Floods (State Department of Health).....	283
Problem of Serologic Testing for Syphilis, R. G. Carney, M.D. ....	377
Problems in Ocular Prosthetics, Lee Allen, A. E. Braley, M.D., and Howard Webster.....	329
Problem of Carcinoma of the Stomach With Special Reference to Encouraging Trends of Survival Rates, Howard K. Gray, M.D.....	493
Problems Posed by the Newborn Infant of a Diabetic Mother, Robert D. Gauchat, M.D.....	416
Program, 1953 Annual Meeting, Iowa State Medical Society.....	85
Prophylaxis of Cardiac Arrest (Editorial).....	188
Psittacosis Virus, Reservoirs of (Editorial).....	117
Psychiatric Aspects of Geriatrics, Wm. Malamud, M.D.....	461
Psychosomatic Short Course.....	495
Pudendal Block Anesthesia in Obstetrics, J. R. Willson, M.D., and Kenneth L. Cooper, M.D.....	409
"Pulmonary Adenomatosis" Emphasizing Diagnostic Considerations, A Case of, Lawrence D. Amick, M.D.....	219

## Q

Question to the Editor.....	161
Questionnaire, Legislative, Results of (Editorial).....	517

## R

Rabies in Animals in Iowa in 1952 (State Department of Health).....	128
Red Cross (Editorial).....	118
Refuse Disposal by Sanitary Landfill (State Department of Health).....	128
Regional A.C.P. Meeting.....	415
Rehabilitation in Severe Poliomyelitis, Miland E. Knapp, M.D. ....	369
Report of Tuberculosis Field Programs (State Department of Health).....	129
Research Dramatizes Need for Fluoridation (State Dept. of Health).....	484
Reserve Air Corps Officers' Unit.....	4
Reservoirs of Psittacosis Virus (Editorial).....	117
Results of Legislative Questionnaire (Editorial).....	517
Rodent Control (State Department of Health).....	37
Rooming-In Plan for Mother and Baby (Editorial).....	267
Rost, Glenn S., M.D., Allergic Reactions to Catgut Preservatives.....	218
Roster of Iowa Physicians in Military Service.....	41, 82, 133, 168, 202, 249, 286, 357, 400, 441, 487, 533
Routh, Joseph I., and Hummel, J. P., Functions of a Clinical Biochemistry Laboratory.....	148

## S

Salmonellosis Outbreak in Two Iowa Counties (State Dept. of Health).....	437
Sarcoma, Osteogenic (Col. of Med. Clin. Path. Conf.).....	62
Sawyer, Floyd E., M.D. (co-author), Acute Poliomyelitis.....	361
Secondary Hemorrhage Postadenotomysillectomy, Jack V. Treynor, M.D.....	14
Serologic Testing for Syphilis, Problem of, R. G. Carney, M.D. ....	377
Should Your Child Be a Doctor?.....	460
Simplified Chemical Test for Electrolyte Concentration (Editorial).....	67
Smith, Channing Gamaliel, M.D.....	471
Snyder, D'Annette, M.D., Present Day Management of Erythroblastosis.....	373
Some Common Obstetrical Problems and Their Management, Draper L. Long, M.D.....	45
Some Doctors Are Hungry (Editorial).....	383
Speakers' Bureau Schedules.....	32, 73, 123, 161, 196, 240, 276, 349, 395, 436, 483, 530
Spotlight on the Iowa Doctor.....	528
Stack, James K., M.D., Fractures and Casts.....	319
State Department of Health.....	37, 78, 128, 164, 198, 244, 282, 354, 396, 437, 484, 526
State University of Iowa Heart Institute.....	424, 475
State University of Iowa Symposium of Retinal Diseases.....	134

Stitt, P. L., M.D. (co-author), Vaginal Hysterectomy in Treatment of Prolapse.....	50
Strychnine Poisoning (Col. of Med. Clin. Path. Conf.).....	181
Sunderbruch, John H., M.D., Case Report of Synovium.....	105
Surgical Fixation for the Fractured Hip (Editorial).....	66
Synovium, Case Report of, John H. Sunderbruch, M.D.....	105
Syphilis, Costs of Untreated (State Department of Health).....	397
Syphilis, Problem of Serologic Testing for, R. G. Carney, M.D. ....	377

## T

Teaching Value of the Veterans Hospital, Robt. C. Hardin, M.D.....	153
Telangiectasis, Hereditary Hemorrhagic (Col. of Med. Clin. Path. Conf.).....	114
Tharp, Dr. H. M., of Monroe Honored (Editorial).....	233
Thatcher, Wilbur C., M.D., Stitt, P. L., M.D., Allen, H. H., M.D., Vaginal Hysterectomy in the Treatment of Prolapse.....	50
Therapeutic Contact Dermatitis, Reuben Nomland, M.D.....	150
Thoracic Cardiovascular Surgery at S.U.I. ....	
I. Medical and Physiological Evaluation, J. W. Culbertson, M.D., and George N. Bedell, M.D.....	443
II. Roentgenologic Evaluation, Eugene VanEpps, M.D.....	451
III. Surgical Treatment, J. L. Ehrenhaft, M.D.....	455
Thorek, Philip, M.D., Jaundice.....	1
Throckmorton's Fables (Editorial).....	425
Thornton, Thomas F., Jr., M.D., Management of Gastrointestinal Hemorrhage.....	99
Timely Suggestions for Sewage Treatment Plant Operation and City Officials (State Department of Health).....	38
Top, Franklin H., M.D., Epidemiology of Poliomyelitis.....	138
Top, Franklin H., M.D., Isolation for Poliomyelitis (State Dept. of Health).....	396
Treatment of Complications of Fractures of the Neck of the Femur, Carroll B. Larson, M.D.....	258
Treynor, Jack V., M.D., Secondary Hemorrhage Postadenotomysillectomy.....	14
Trudeau Society Meeting.....	424
Tuberculosis in the Aging Population in Iowa, Walter L. Bierring, M.D.....	500
Tuberculosis, Pulmonary (Col. of Med. Clin. Path. Conf.).....	17
Twins and Triplets (Editorial).....	472
Typhoid Carrier Summary—June 30, 1953 (State Department of Health).....	354

## U

University of Iowa Issue (Editorial).....	154
Unusual Twin Pregnancy, H. Lloyd Miller, M.D.....	266
Use of Metallic Elements in Repair of Hernia Defects James D. Hennessy, M.D.....	7

## V

Vaginal Hysterectomy in the Treatment of Prolapse, W. C. Thatcher, M.D., P. L. Stitt, M.D., and Hoyt H. Allen, M.D.....	50
VanEpps, Eugene F., Thoracic Cardiovascular Surgery at S.U.I., II. Roentgenologic Evaluation.....	451
Veneral Disease Control Program in Iowa, R. H. Heeren, M.D., L. Dippert, R.N., A. Gelperin, M.D., and W. D. Plude.....	101
Veterans Hospital, Teaching Value of the, Robert C. Hardin, M.D.....	153
Viruses, Coxsackie Group of, McKee, A. P., M.D., Layton, J. M., M.D., Jeter, W. S., Ph.D., Porter, J. R., Ph.D.....	143
Vocational Rehabilitation (Editorial).....	25
Voice Pathology Institute.....	265

## W

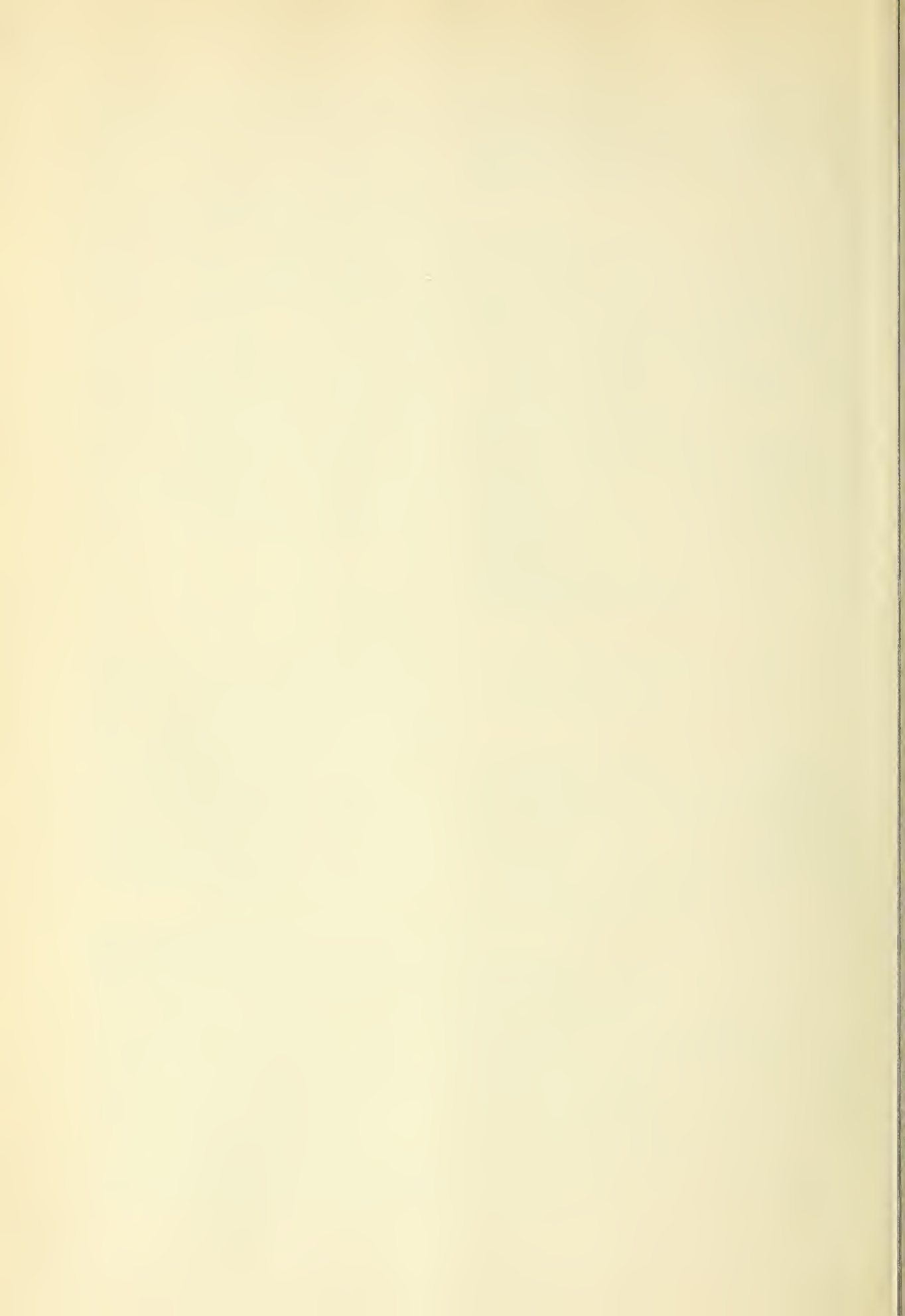
Wagner, Donald J., M.D., Pitfalls in Electrocardiography.....	412
Webster, Howard (co-author), Problems in Ocular Prosthetics.....	329
What Constitutes a Compensation Case?, E. H. Carleton, M.D. ....	323
What the Patient's Story Suggests to the Neurologist Henry W. Woltman, M.D.....	169
Whitaker, Ben T., M.D., President's Address.....	205
Willson, J. Robert, M.D., and Cooper, Kenneth L., M.D., Pudendal Block Anesthesia in Obstetrics.....	409
Wins Art Award.....	262
Woltman, Henry W., M.D., What the Patient's Story Suggests to the Neurologist.....	169
Woman's Auxiliary News.....	30, 72, 121, 158, 191, 237, 275, 348, 392, 434, 481, 529
Woodbury County Polio Award Presentation.....	83
Woods, Dr. Arthur D. (Editorial).....	385
World Medical Association Meeting in Rome.....	475

## Z

Zimmerer, Edmund G., M.D., Cancer Deaths in Children.....	174
---	-----















43224

Iowa state medical society. Journal

AUTHOR

v.43, 1953

TITLE

DATE DUE	BORROWER'S NAME
DEC 10 '55	

Iowa state medical society. Journal

v.43, 1953

43224

DEC 10 '55

DATE DUE

DEC 10 '55

